PCB and Pesticide Residues in Fish from the Red River Manitoba: 1978 — 1983

Water Standards and Studies Report #86-2

Manitoba
Environment and
Workplace Safety
and Health

PCB AND PESTICIDE RESIDUES IN FISH FROM THE RED RIVER, MANITOBA 1978 - 1983

A. E. Beck
Water Standards and Studies Section
Environmental Management Services Branch
Environmental Management Division

DEPARTMENT OF ENVIRONMENT AND WORKPLACE SAFETY AND HEALTH
WATER STANDARDS AND STUDIES, REPORT #86-2

SUMMARY

The Biomonitoring sub-program was established in 1978 in order to provide an early warning system with respect to persistent environmental contaminants and to provide an accurate and current assessment of surface water quality within specific drainage basins. The occurrence of polychlorinated biphenyl (PCB) and organochlorine pesticide residues in fish collected from the Red River during the period 1978-1983 comprised one aspect of the program. This aspect was the focus of the present report.

Specimens of three fish species were collected annually from each of three sites (Emerson, St. Norbert and Selkirk). Samples of fish muscle tissue were analyzed by gas chromatography for three PCB formulations and twelve organochlorine insecticides.

The PCB formulation known as Arochlor 1248 was not reported in any of the samples analyzed. A shift over time was observed as dominance in 1978 moved from Arochlor 1254 to Arochlor 1260 by 1981. Statistically significant negative trends which indicated exponential rates of decline in total PCB residues during the period 1978 to 1983 were also detected in most species. A significant decrease in total PCB loadings to the Red River watershed was inferred from both the shift in dominance and the negative trends.

Among the organochlorine insecticides, aldrin, dieldrin, endrin and methoxychlor were not detected in any of the samples analyzed. Lindane was detected in only one 1978 specimen. Chlordane was first detected in some 1981 specimens from St. Norbert and Selkirk but became common in 1982 specimens from these sites. It was not detected in any of the 1983 samples.

The dominant member of the DDT group encountered during the present study was p,pDDE, a degradation product of DDT. Also commonly encountered was p,p DDD. The o,p and p,p isomers of DDT and the o,p isomers of DDD and DDE were detected only rarely. Significant trends were not detected in annual mean total DDT residues during the six year term of study.

It was concluded that fish muscle tissue residues of PCB had declined significantly during the period of study and that residues of total DDT were representative of long term background and thus were unlikely to change appreciably in the near future. It was also concluded that fish muscle tissue residues of PCB, total DDT and other organochlorine insecticides included in the study did not exceed existing Canadian guidelines.

TABLE OF CONTENTS

	PAGE
SUMMARY	i
TABLE OF CONTENTS	ii
LIST OF FIGURES	iii
LIST OF TABLES	iii
LIST OF APPENDICES	iv
1.0 INTRODUCTION	1
2.0 METHODS	4
3.0 RESULTS AND DISCUSSION	8
3.1 PCB	8
3.2 INFREQUENTLY DETECTED ORGANOCHLORINES	11
3.3 THE DDT GROUP	14
4.0 CONCLUSIONS	19
5.0 ACKNOWLEDGEMENTS	20
6.0 REFERENCES	21
7.0 APPENDICES	23

LIST OF FIGURES

		PAGE
1.	Biomonitoring locations on the Red River, Manitoba.....	5
2.	Annual mean total PCB residues (µg/g) in fish from the Red River, Manitoba: 1978-1983.....	10
3.	Annual mean total DDT residues (µg/g) in fish from the Red River, Manitoba: 1978-1983.....	16

LIST OF TABLES

		PAGE
1.	Regressions over time of annual mean total PCB concentrations in fish from the Red River, Manitoba: 1978-1983.....	12
2.	Regressions over time of annual mean total DDT concentrations in fish from the Red River, Manitoba: 1978-1983.....	17

LIST OF APPENDICES

		PAGE
1 (a).	Annual summaries (1978-1983) of organochlorine residues (µg/g) in fish from the Red River at Emerson:	
	1 (a-1): Sauger	23
	1 (a-2): Goldeye	26
	1 (a-3): Walleye	29
1 (b).	Annual summaries (1978-1983) of organochlorine residues (µg/g) in fish from the Red River at St. Norbert:	
	1 (b-1): Sauger	32
	1 (b-2): Goldeye	35
	1 (b-3): Common Sucker	38
1 (c).	Annual summaries (1978-1983) of organochlorine residues (µg/g) in fish from the Red River at Selkirk:	
	1 (c-1): Sauger	41
	1 (c-2): Common Sucker	44
	1 (c-3): Freshwater Drum	47
2 (a).	Organochlorine residues (µg/g) in fish from the Red River at Emerson (1978-1983):	
	2 (a-1): Sauger	51
	2 (a-2): Goldeye	54
	2 (a-3): Walleye	57
2 (b).	Organochlorine residues (µg/g) in fish from the Red River at St. Norbert (1978-1983):	
	2 (b-1): Sauger	60
	2 (b-2): Goldeye	63
	2 (b-3): Common Sucker	66
2 (c).	Organochlorine residues (µg/g) in fish from the Red River at Selkirk (1978-1983):	
	2 (c-1): Sauger	69
	2 (c-2): Common Sucker	72
	2 (c-3): Freshwater Drum	75
3	Synopsis of analytes:	
	3 (a). PCB	79
	3 (b). Aldrin	80
	3 (c). Chlordane	81
	3 (d). Dieldrin	82
	3 (e). Endrin	83
	3 (f). Lindane	84
	3 (g). Methoxychlor	85
	3 (h). Total - DDT	86
	3 (i). DDE	87
	3 (j). DDD	88
	3 (k). DDT	89

1.0 INTRODUCTION

The unique chemical and physical properties of polychlorinated biphenyls (PCB) and the organochlorine pesticides which led to their extensive use, have also resulted in their accumulation and retention in the environment (Roberts et al, 1978). The potential environmental hazards posed by these persistent compounds was not commonly known until the popularization of Dr. Rachel Carson's now famous book, Silent Spring, in the 1960's. Since then, a profusion of both scientific and lay literature dealing with the subject has ensued and helped to arouse environmental awareness.

Increasing environmental consciousness in regulatory bodies and the public has demanded that both the public and the environment be protected from negative impacts caused by hazardous materials. One essential requirement for ensuring sound protection involves the institution of an adequate monitoring program. An adequate monitoring program ensures that the occurrence of hazardous materials is determined and that the materials present are quantified.

Water serves as a primary transport medium for many materials deposited on land surfaces. As receptacles of surface runoff and of direct discharges, lakes and streams are excellent locations in which to search for hazardous materials. However, many materials dissolved or carried in these water bodies occur in very minute, often analytically undetectable quantities. Analytically undetectable concentrations are a recurrent problem particularly common to monitoring the organochlorine family of compounds.

Some of the properties of organochlorine compounds present the opportunity to monitor these substances in matrices other than water. Many of the organochlorines have an affinity for organic matter. Aquatic organisms can accumulate organochlorines efficiently from water via their gills (bioconcentration) and can also assimilate these lipophilic compounds from food. The efficient accumulation of organochlorines from water and food combined with slow rates of metabolism and excretion give rise to the biomagnification observed in aquatic food chains (Thomann, 1981; Thomann and Connolly, 1984). Since fish are relatively long lived and may be confined to specific reaches of a river by dams, they develop muscle tissue residues peculiar to the location. This phenomenon both creates a potential hazard for the environment and the public and also provides an opportunity for monitoring.

The Environmental Management Division instituted the Biomonitoring sub-program in recognition of the potential dangers associated with persistent hazardous materials, the difficulty with monitoring the presence of some organic compounds in the water column and awareness of the opportunities afforded by examining matrices other than water. The sub-program commenced in 1978 and was initially confined to the Assiniboine, Red and Winnipeg Rivers. It was later expanded to include the Souris River in 1979 and the Saskatchewan River in 1983. This afforded a network coverage of major population zones located within watersheds most likely to receive the greatest amount of chemicals and wastes from agricultural, industrial, municipal and domestic sources.

Primary objectives of the Biomonitoring sub-program included developing an accurate and current assessment of surface water quality and establishing an early warning system with respect to persistent environmental contaminants. These objectives were prerequisites to ensure adequate protection for the public and the environment. To achieve these goals the sub-program included the annual collection of fish from various sites along the rivers and the subsequent analysis of fish muscle tissue.

The present report focuses on the occurrence of polychlorinated biphenyl (PCB) and organochlorine pesticide residues in fish collected from the Red River during the period 1978-1983.

2.0 METHODS

Three locations near the communities of Emerson, St. Norbert and Selkirk were selected as biomonitoring sites for the Red River (Figure 1). These sites were selected because of differences in watershed characteristics and because of ready launch facilities.

Fish were primarily collected by overnight deployment of gill nets. Shortfalls of required specimens occasionally were supplemented by angling or by trading excess specimens with local anglers. Net set locations were chosen on the basis of preferred fish habitats and with due precaution for safety considerations engendered by boat traffic. Fish collections were relegated to September and October of each year so as to avoid spawning migrations and to enhance the probability of specimens having been resident on site for approximately three months.

The results of initial nets set during the 1978 field program were considered baseline and the three most abundant species collected were designated as key species. Sampling in 1978 and thereafter was restricted to the key species for each site. A total of ten specimens per key species were randomly selected from the catch at each site. These were "iced down" and stored in coolers until processing could be conducted.

Specimens were processed at the Water Standards and Studies laboratory in Winnipeg. Specimens were assigned an identification number, identified as to species, weighed to the nearest 20 g and measured (fork length) to the nearest 0.1 cm. Evidence of age was also removed during processing. These consisted of otoliths (bone

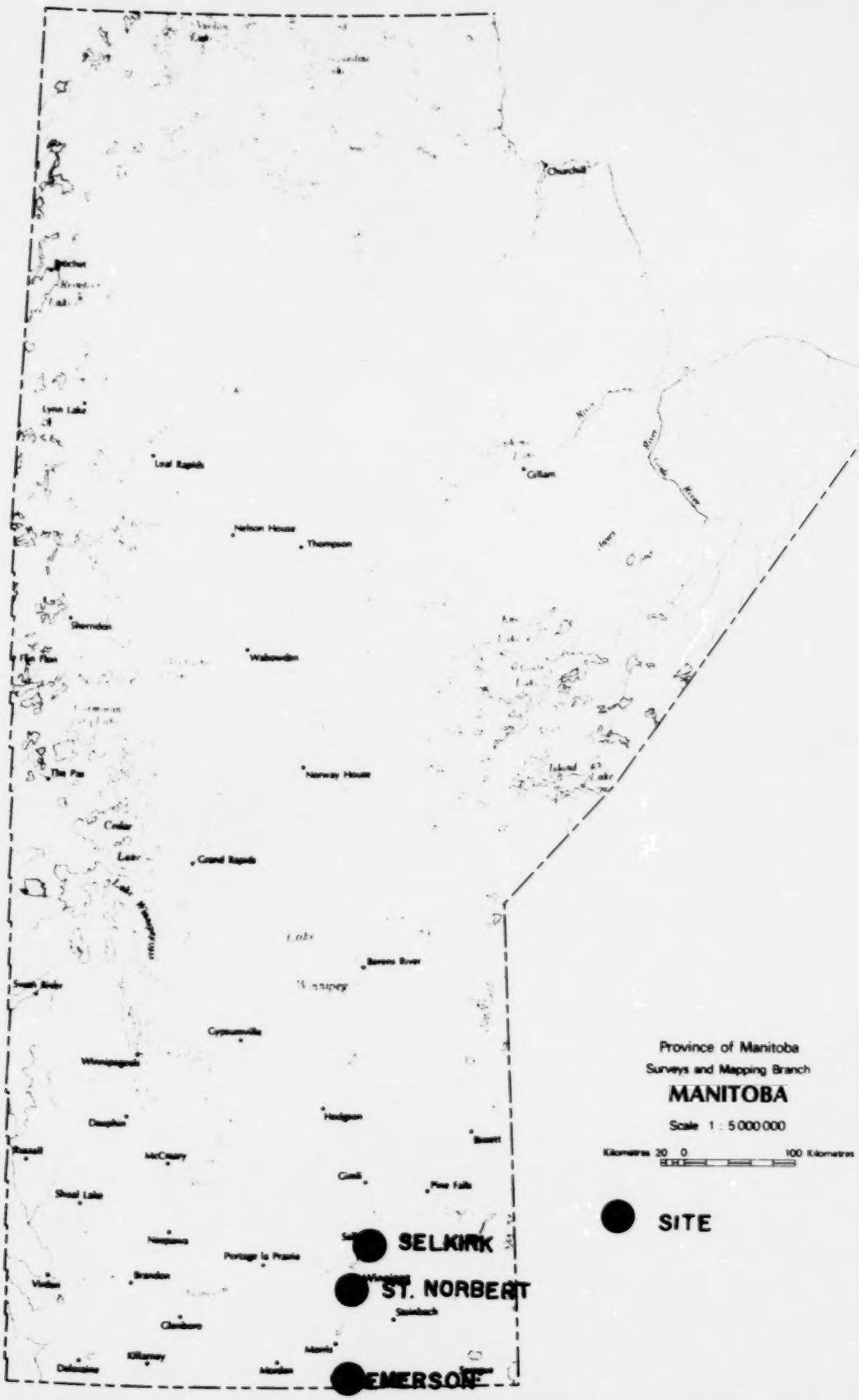

FIGURE 1: Biomonitoring locations on the Red River, Manitoba

structures located at the base of the brain) for walleye, sauger and freshwater drum, leading rays from the dextral pelvic fin for suckers, and upper mid lateral scales for goldeye. A sample of skinless, boneless fillet was removed from each specimen and placed into an appropriately labelled precleaned* glass jar. All samples were subsequently maintained in a frozen state until commencement of preparation for analysis.

Evidences of age were submitted to the Department of Natural Resources, Fisheries Enhancement Branch (now) for age determinations in a manner adopted from Lagler (1964) and Cuerrier (1951). Fish muscle tissue samples were submitted to the W. M. Ward Technical Services Laboratory for preparation and chemical analysis. Sample preparation involved adding ten grams of sample to acetonitrile-water and homogenzing using a Polytron blender. The homogenate was then centrifuged. The supernatent was transferred to a 2 litre separatory funnel, diluted with water, and extracted with petroleum ether. The extract was concentrated, cleaned with florisil** and then further concentrated to five mL. Analysis was performed using a gas chromatograph equipped with an electron capture detector (P. Nicolas, pers. comm.).

---

* New 250 mL. glass jars were triple rinsed with pesticide-grade acetone and then triple rinsed with pesticide-grade hexane. A similarly rinsed liner of aluminum foil was placed between the jar and caps. This procedure was performed by staff of the W. M. Ward Technical Services Laboratory.

** Fractionation was not included in the cleanup procedure.

Chromatograms were analyzed for peak retention times peculiar to three PCB formulations and twelve organochlorine pesticides. Detected residues were quantified by comparing peak height relative to peak response from known standard concentrations.* Detected residues were reported as µg/g (wet weight). A synopsis of each target compound is presented in Appendix III.

Regressions over time (1978 = year 1) were calculated for mean total PCB and total DDT. The strength of calculated correlations (r^2) were tested at $t_\alpha = 0.05$.

---

* Accuracy and precision data are available on request from:
W. M. Ward Technical Services Laboratory,
Attn: E. A. Sorba, Head,
Methods and Standards Section,
745 Logan Avenue,
Winnipeg, Manitoba.
R3E 1M8

3.0 RESULTS AND DISCUSSION

Statistical summaries of the data, by species, year and site, are presented in Appendix I. Appendix II details the raw data.

3.1 PCB

Chromatogram analysis for PCB was somewhat subjective as all PCB present in each sample was reported solely as the dominant formulation encountered. This meant that even though two or more formulations may have been present in a sample, the sum was reported solely as the most abundant formulation. Reporting in this manner was necessitated by the relatively low concentrations encountered and by masking* of lesser defined peaks (P. Nicolas, pers. comm.).

The PCB formulation known as Aroclor 1248 was not reported in any of the fish samples analyzed. Aroclor 1254 was, with few exceptions, the sole formulation reportedly detected during the period 1978 to 1980. Limited detections were reported in 1981. Excepting several Arochlor 1260 detections in sauger from St. Norbert during 1978 and 1980 and common sucker from St. Norbert during 1978, Arochlor 1260 became dominant in 1981. It was the sole formulation reported during 1982 and 1983.

The change in dominant formulations reported during the 1978 to 1983 period may be indicative of an apparent shift from less chlorinated biphenyls (i.e. Arochlor 1254) to more heavily chlorinated

* Isomer specific analysis could not be achieved because Florisil fractionation was not included in the procedure.

biphenyls (i.e. Arochlor 1260). Similar shifts have been observed in massive PCB spill situations (Butler et al, 1980). The rationale for this phenomenon postulates that less heavily chlorinated PCB are more volatile and hence, more rapidly mobilized and transported out of a particular system (Hutzinger et al, 1974). Additionally, less chlorinated PCB are more susceptible to metabolism and, subsequently, preferential loss (Ibid; Roberts et al, 1978). Assuming that the relative concentration of formulations loaded to the watershed have remained constant, the inference that may be drawn from the present data is that loading of PCB to the Red River watershed appeared to have been substantially reduced over the period 1978 and 1983. Similar reductions have been observed on the Great Lakes (Dauphine, 1980; Schmitt et al, 1983).

PCB are lipophilic compounds (Roberts et al, 1978), meaning that they diffuse efficiently into fatty tissue. Hence, fish with high lipid content (i.e. fatty fishes) have a tendency to demonstrate greater concentrations of PCB than do fish of low lipid content. This tendency was particularly pronounced in comparisons of the high lipid goldeye to the leaner sauger at both the Emerson and St. Norbert sites (Figure 2). A strong distinction was not evident at the Selkirk site (Figure 2), presumably because of similar lipid content in the three species involved (i.e. sauger, common sucker and freshwater drum). The highest individual concentration encountered (1.35 µg/g) was reported in 1978 from a goldeye collected at St. Norbert (Appendix 2(b-2)). Only two other specimens, both goldeye collected in 1978 from Emerson, exceeded the 1.0 µg/g level (1.20 and 1.17 µg/g; Appendix 1(a-2)). Thus it was reasonable to conclude that, at

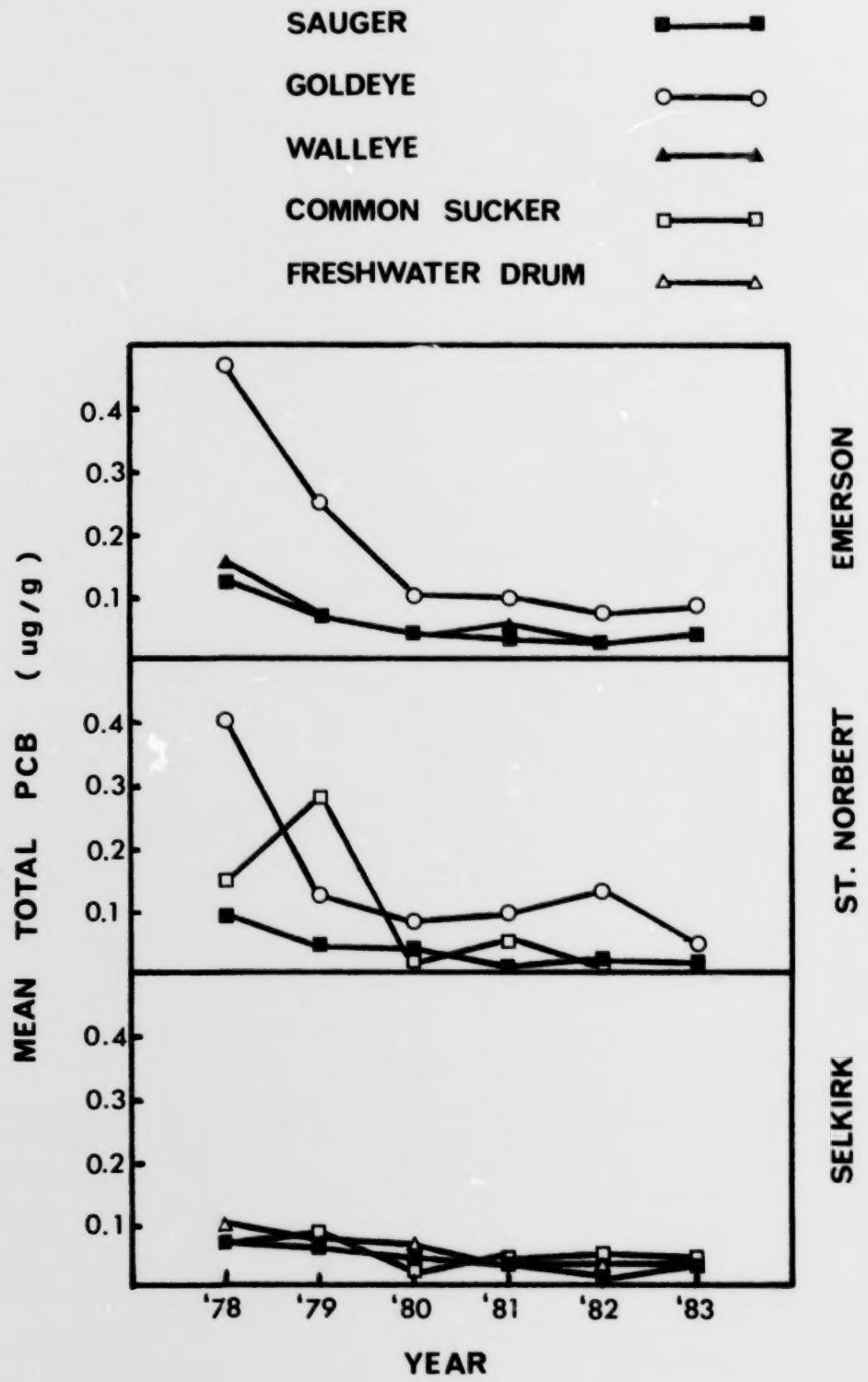

FIGURE 2: Annual mean total PCB residues (µg/g) in fish from the Red River, Manitoba: 1979 - 1983.

present, fish taken from the Red River, Manitoba, do not possess muscle tissue PCB residues in excess of the 2.0 µg/g Canadian limit.*

Regressions of annual mean total PCB residues (Table 1) indicate a negative trend (i.e declining concentrations) during the six year term of study. The trends generally followed an exponential rate of decline (Figure 2). The correlations (r^2) were significant (t_α=0.05) for all regressions excepting common sucker at both the St. Norbert** and Selkirk sites. Thus it was concluded that PCB residues in fish muscle tissue declined significantly during the period 1978 to 1983. It also seemed reasonable to infer that total PCB loadings to the Red River watershed had decreased significantly since 1978.

3.2 Infrequently Detected Organochlorines

The term "infrequently detected organochlorines" is a reference to the frequency of detection within the present study. Other inferences are not intended. Within the context of the present study, the term includes aldrin, chlordane (cis and trans isomers), dieldrin, endrin, lindane and methoxychlor.

---

* The 2.0 µg/g Canada limit pertains to commercial fish destined for human consumption (G. MacGregor, pers. comm.).

** Although the correlation for the St. Norbert common sucker regression was not significant when tested at t_α=0.05, the plot (Figure 2) suggested an apparent negative trend. Thus a type ß error may have occurred in testing the hypothesis [H:ß=0]

Table 1: Regressions over time* of annual mean total PCB concentrations in fish from the Red River, Manitoba: 1978 - 1983

Site	Species	Where annual mean total PCB ($\mu g/g$) = a	b	r^2	exp.b(yr)* Ho:B=0(t)
Emerson	Sauger	8.11	-16.82	0.90	Reject (6.00)
	Goldeye	6.29	-4.04	0.91	Reject (6.36)
	Walleye	6.58	-12.66	0.93	Reject (6.31)
St. Norbert	Sauger	7.39	-23.13	0.93	Reject (7.29)
	Goldeye	5.67	-4.24	0.72	Reject (3.21)
	Common Sucker	3.88	-3.68	0.41	Accept (1.44)
Selkirk	Sauger	11.27	-27.91	0.87	Reject (5.17)
	Common Sucker	9.53	-20.83	0.39	Accept (1.60)
	Freshwater Drum	12.29	-23.79	0.91	Reject (6.36)

* where 1978 = year 1, 1979 = year 2, ...1983 = year 6.

Aldrin*, dieldrin, endrin and methoxychlor were not detected in any of the samples analyzed during the present study. Two of these organochlorines, aldrin and methoxychlor, were also undetected in a similar program conducted by the state of Minnesota (Helwig, 1983). Consistent failure to detect methoxychlor was unexpected since it is recommended within Manitoba (Smith et al, 1984) for a number of diverse agricultural applications. Unlike the present study, dieldrin and endrin were both detected in a 1978 composite whole organism sample of five carp collected from the Red River at Fargo, Minnesota (Helwig, 1983)**. This suggested that subdetectable residues of dieldrin and endrin may have also been present in fish collected within Manitoba.

Lindane was detected once during the present study. A walleye collected from Emerson during 1978 demonstrated lindane residues of 0.003 µg/g. Similar residues (0.007 mg/Kg and 0.004 mg/Kg) were also detected in two 1978 Minnesota composite samples of carp (Helwig, 1983). The Minnesota detections and the range of recommended agricultural applications within Manitoba (Smith et al, 1984) suggested that lindane may be distributed more widely than might be inferred from the single detection documented during the present study.

---

* Aldrin is not found in fish because it is readily metab olized to dieldrin (D. Muir, pers. comm.).

** The Helwig (1983) detection limits for the period were 0.0005 mg/Kg for both dieldrin and endrin, as compared to 0.001 µg/g and 0.005 µg/g respectively for the present study during 1978.

Although commonly detected in 1978 Minnesota composite samples from the Red River (Helwig, 1983), chlordane was not detected during the present study until 1981. During 1981, chlordane was detected in two of ten sauger and in seven of ten common suckers from St. Norbert as well as in one of ten sauger, four of ten common sucker and three of ten freshwater drum collected from Selkirk. During 1982, it was detected in six of ten goldeye and two of ten common sucker from St. Norbert as well as in six of ten sauger, all common sucker and five of nine freshwater drum from Selkirk. The maximum level encountered (0.0494 µg/g) was detected during 1981 in a common sucker from St. Norbert. Excepting St. Norbert common suckers, however, mean residue levels did not exceed the 0.0003 µg/g level of detection by more than one order of magnitude. Chlordane residues were not detected in 1983 samples and were not detected in any samples from Emerson during the present study. This information suggested that chlordane had been applied in a manner or a location that was conducive to loss via runoff. Like others of the infrequently detected organochlorine group, chlordane residues in fish muscle tissue did not appear to constitute a cause for health concern in persons consuming fish taken from Manitoba reaches of the Red River.

3.3 THE DDT GROUP

The DDT "group" includes both the o,p (ortho, para) and p,p (para, para) isomers of DDE, DDD and DDT. The term "total DDT" refers to the summation of residues from the entire DDT group.

The dominant form encountered during the present study was p,pDDE, a degradation product of DDT. Also commonly encountered was p,pDDD. (The p,pDDE and p,pDDD forms were also reportedly dominant in fish from Alberta [Aquatic Biology Group, 1984]). The o,p and p,p isomers of DDT were detected only rarely. The maximum level of residue encountered (p,pDDT at 2.64 µg/g in a 1981 goldeye from St. Norbert) was viewed with considerable suspicion because of the low frequency of detection of that particular isomer and because the next nearest maximum value encountered (p,pDDE at 0.180 µg/g in a 1978 goldeye from Emerson) was one order of magnitude lower.

Apart from the single instance discussed previously (i.e. p,pDDT) at 2.64 µg/g), the maximum total DDT residue encountered was 0.330 µg/g (a 1978 goldeye from St. Norbert). Annual mean residues generally were considerably lower (Figure 3) than the 0.106 µg/g level encountered in 1978 St. Norbert goldeye.* Thus it was concluded that at present, fish taken from the Red River, Manitoba, do not possess muscle tissue total DDT residues in excess of the 5.0 µg/g Canadian Limit.**

Regressions of annual mean total DDT residues (Table 2) failed to indicate any significant trends during the six year term of study. Plots of annual mean residues (Figure 3) also were not suggestive of apparent trends over time. The plots, however, were reflective of the lipophilic properties of the DDT group (i.e. higher

---

* The 1983 walleye from Emerson are excluded since the mean (0.108 µg/g) was comprised of a single sample.

** The 5.0 µg/g Canada limit pertains to commercial fish destined for human consumption (G. MacGregor, pers. comm.).

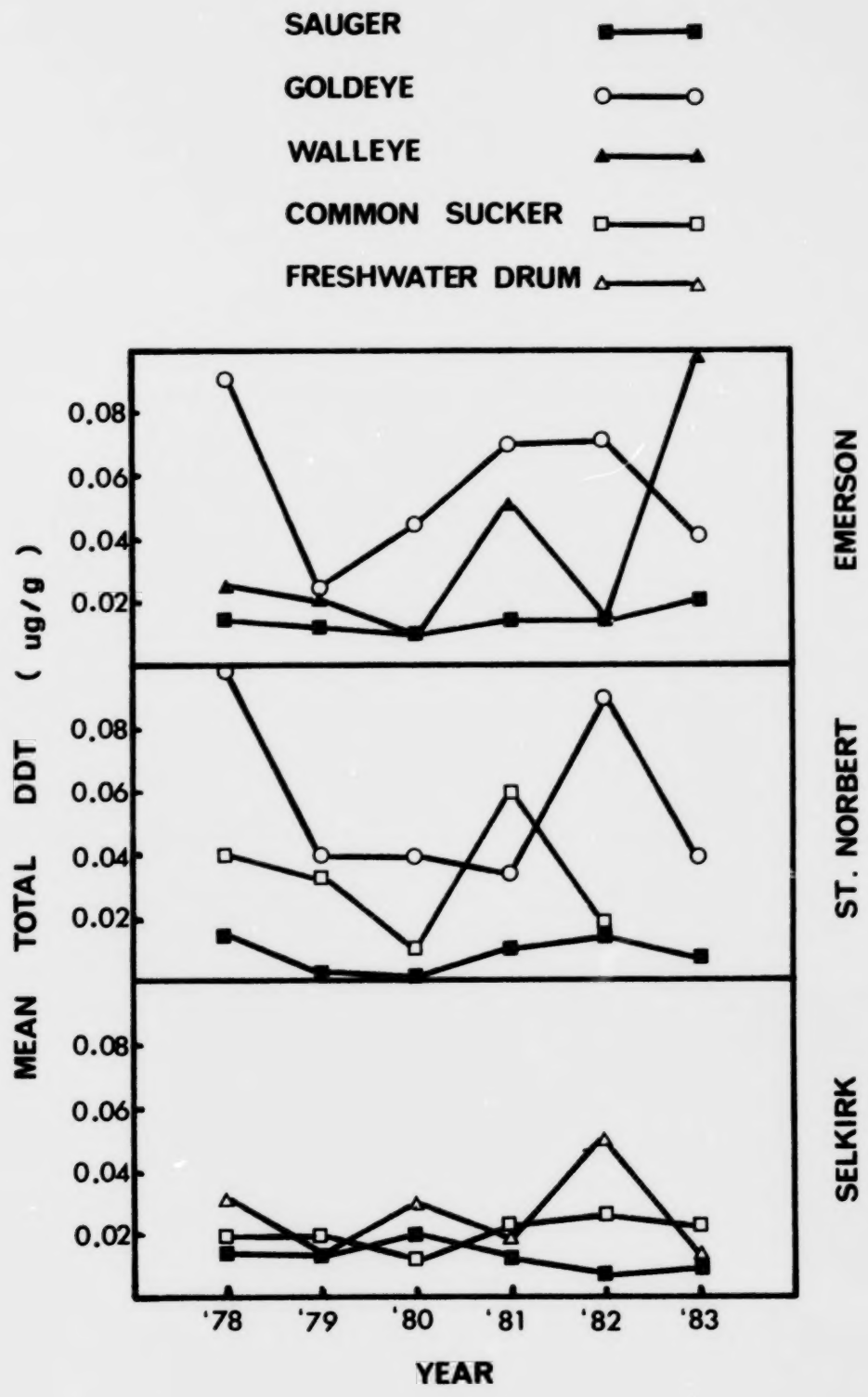

FIGURE 3: Annual mean total DDT residues (µg/g) in fish from the Red River, Manitoba: 1979 - 1983.

Table 2: Regressions over time* of annual mean total DDT concentrations in fish from the Red River, Manitoba: 1978 - 1983

Site	Species	Where annual mean total DDT (µg/g) = a a	b	r^2	exp.b(yr)* Ho:B=0(t)
Emerson	Sauger	1.52	43.12	0.05	Accept (0.46)
	Goldeye	4.45	-6.75	0.06	Accept (0.29)
	Walleye	2.09	9.32	0.27	Accept (1.22)
St. Norbert	Sauger	4.53	-46.66	0.11	Accept (0.07)
	Goldeye	2.79	0.61	0.01	Accept (0.20)
	Common Sucker	3.20	-6.17	0.04	Accept (0.35)
Selkirk	Sauger	8.90	-78.95	0.24	Accept (1.12)
	Common Sucker	0.55	77.77	0.31	Accept (1.34)
	Freshwater Drum	2.78	2.63	<0.01	Accept (0.20)

* where 1978 = year 1, 1979 = year 2,.....1983 = year 6.

residue levels in fatty fishes such as goldeye). Considering that mean total DDT residue levels up to 8.17 µg/g were encountered in Lake Superior fish prior to 1978 (Armstrong and Lutz, 1977) and since trends were not detected during the present study, it was concluded that total DDT residues encountered during the present study were representative of long term background fish muscle tissue residues for Manitoba reaches of the Red River. As such, residue levels were considered unlikely to demonstrate appreciable change in the near future. The longer term, however, may actually evidence a positive trend due to atmospheric transboundary transport from areas where current use is substantial (Rapaport et al, 1985).

4.0 CONCLUSIONS

With respect to fish taken from Manitoba reaches of the Red River during the period 1978 to 1983, it was concluded that:

1. Muscle tissue residues of PCB, total DDT and other organochlorine insecticides included in the present study did not exceed existing Canadian guidelines for commercial sale of fish destined for human consumption within Canada.
2. Muscle tissue residues of PCB declined significantly during the period of study.
3. Muscle tissue residues of total DDT encountered during the present study were representative of long term background and were considered unlikely to change appreciably in the near future.

5.0 ACKNOWLEDGEMENTS

Water Standards and Studies wishes to acknowledge external assistance provided to this program. Special appreciation is expressed to Mr. Ed. Chorniuk, Mr. Paul Nicholas and co-workers in the Organic Analysis section of the W. M. Ward Technical Services Laboratory. These people both prepared sample glassware and performed the analyses. Sincere appreciation is also expressed for the manuscript review, comments and suggestions provided by Dr. Derek Muir, Research Scientist, Fisheries and Oceans Canada.

6.0 REFERENCES

Aquatic Biology Group. 1984. Pesticide and PCB Levels in Fish from Alberta. Chemosphere Vol. 13:1 (19-32).

Armstrong, F. A. J., and A. Lutz. 1977. Lake Superior, 1974: PCB, Chlorinated Insecticides, Heavy Metals and Radioactivity in Offshore Fish. Tech. Rept. #693. Fisheries and Marine Services, Canada. Dept. of the Environment. Freshwater Institute, Winnipeg, Manitoba.

Butler, G. C., J. A. Cherry, I. Hoffman, J. R. Roberts and F. W. Schwartz. 1980. A Case Study of a Spill of Industrial Chemicals - Polychorinated Biphenyls and Chlorinated Benzenes. AD HOC Panel convened by the National Research Council of Canada to Review the Spill of Polychorinated Biphenyls at the Federal Pioneer Ltd. Site in Regina Saskatchewan. National Research Council of Canada No. 17586. Released by Saskatchewan Department of Environment, Regina, Saskatchewan.

Cuerrier, J. P. 1951. The use of pectoral fin rays for determining age of sturgeon and other species of fish. Can. Fish. Cult. 11: 10-18.

Dauphine, T. C. 1980. The Surveillance of Toxic Substances in Great Lakes Wildlife. Proc. First Biological Surveillance Symposium, 22nd Conference on Great Lakes Research. Rochester, New York. May 1979. Can. Tech. Rep. Fish. Aquat. Sci. 976, pp. 153-174.

Helwig, D. D. 1983. Fish Tissue Monitoring Program: Minnesota Lakes and Streams. A Compilation of Analytical Data, 1978-1981. Section of Monitoring and Analysis, Division of Water Quality, Minnesota Pollution Control Agency. Roseville, Minnesota.

Hutzinger, O., S. Safe, and V. Zitko. 1974. The Chemistry of PCB's, CRC Press, Cleveland, Ohio.

Johnson, W. W. and M. T. Finley. 1980. Handbook of Acute Toxictiy of Chemicals to Fish and Aquatic Invertebrates. United States Department of the Interior, Fish and Wildlife Service/Resource Publication 137. Washington, D.C.

Lagler, K. F. 1964. Freshwater Fishery Biology (2nd ed.). W. C. Brown Co., Dubuque, Iowa.

Rapaport, R. A., M. R. Urban, P. D. Capel, J. E. Baker, B. B. Loosey, S. J. Eisenreich, and E. Gorham. 1985. "New" DDT Inputs to North America: Atmospheric Deposition. Chemosphere Vol. 14:9 (1167-1173).

Roberts, J. R., D. W. Rodgers, J. R. Bailey, and M. A. Rorke. 1978. Polychlorinated biphenyls: Biological criteria for an assessment of their effects on environmental quality. Associate Committee on Scientific Criteria for Environmental Quality, National Research Council of Canada, NRCC No. 16077, Ottawa, Canada.

Schmitt, C. J., M. A. Ribick, J. L. Ludke and T. W. May. 1983. National Pesticide Monitoring Program: Organochlorine Residues in Freshwater Fish, 1976-79. U.S. Fish and Wildlife Service, Resource Publ. No. 152. Columbia, Missouri. 62pp.

Smith, D. L., A. J. Kolach and J. McCullough; comp. 1984. 1984 Manitoba Insect Control Guide. Entomology Section, Manitoba Department of Agriculture. Winnipeg, Manitoba.

Thomann, R. V. 1981. Equilibrium Model of Fate of Microcontaminants in Diverse Aquatic Food Chains. Can. J. Fish. Aquatic Sci. Vol 38:3 (280-296).

Thomann, R. V. and J. P. Connolly. 1984. Model of PCB in Lake Michigan Lake Trout Food Chain. Env. Sci. and Tech. Vol. 18:2 (65-71).

APPENDIX I

PAGE

1 (a). Annual summaries (1978-1983) of organochlorine residues (µg/g) in fish from the Red River at Emerson:
1 (a-1): Sauger..... 23
1 (a-2): Goldeye..... 26
1 (a-3): Walleye..... 29

1 (b). Annual summaries (1978-1983) of organochlorine residues (µg/g) in fish from the Red River at St. Norbert:
1 (b-1): Sauger..... 32
1 (b-2): Goldeye..... 35
1 (b-3): Common Sucker..... 38

1 (c). Annual summaries (1978-1983) of organochlorine residues (µg/g) in fish from the Red River at Selkirk:
1 (c-1): Sauger..... 41
1 (c-2): Common Sucker..... 44
1 (c-3): Freshwater Drum..... 47

Note: - The symbol "L" refers to "Less than"
- Sex is defined numerically as follows: 1 - immature
2 - male
3 - female
4 - regenerate

APPENDIX 1 (a-1).

YEAR=1978 SITE=EMERSON SPECIES=SAUGER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SITE=BM004 SPECIES=18									
LENGTH	10	30.5400000	3.11704989	25.5000000	37.6000000	0.98569772	305.40000	9.71600	10.206
WEIGHT	10	261.0000000	52.37683967	160.0000000	340.0000000	16.56301100	2610.00000	2743.33333	20.068
AGE	10	2.9000000	0.31622777	2.0000000	3.0000000	0.10000000	29.00000	0.10000	10.904
SEX	10	2.6000000	0.51639778	2.0000000	3.0000000	0.16329932	26.00000	0.26667	19.861
A-1248	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
A-1254	10	0.1270000	0.06201254	0.0300000	0.2300000	0.01961009	1.27000	0.00385	48.829
A-1260	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
ALDRIN	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
CHLORDANE	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
DIELDRIN	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
ENDRIN	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
LINDANE	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
METHOXYCHLOR	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
TOTAL-DDT	10	0.0168000	0.00575036	0.0070000	0.0250000	0.00181842	0.16800	0.00003	34.228
OP-DDE	10	L 0.0026000	0.00171270	L 0.0010000	0.0060000	0.00054160	0.02600	0.00000	65.873
PP-DDE	10	0.0130000	0.00397213	0.0060000	0.0170000	0.00125610	0.13000	0.00002	30.555
OP-DDD	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDD	10	L 0.0026000	0.00189737	L 0.0020000	0.0080000	0.00060000	0.02600	0.00000	72.976
OP-DDT	10	L 0.0036000	0.00505964	L 0.0020000	0.0180000	0.00160000	0.03600	0.00003	140.546
PP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000

YEAR=1979 SITE=EMERSON SPECIES=SAUGER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=79 SITE=BM004 SPECIES=18									
LENGTH	10	29.6400000	1.89572619	27.3000000	32.8000000	0.59948126	296.40000	3.59378	6.396
WEIGHT	10	267.0000000	47.62119043	220.0000000	350.0000000	15.05914266	2670.00000	2267.77778	17.836
AGE	10	4.4000000	0.69920590	4.0000000	6.0000000	0.22110832	44.00000	0.48889	15.891
SEX	10	2.5000000	0.52704628	2.0000000	3.0000000	0.16666667	25.00000	0.27778	21.082
A-1248	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
A-1254	10	0.0760000	0.01505545	0.0500000	0.0900000	0.00476095	0.76000	0.00023	19.810
A-1260	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
ALDRIN	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
CHLORDANE	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
DIELDRIN	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
ENDRIN	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
LINDANE	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
METHOXYCHLOR	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
TOTAL-DDT	10	0.0146000	0.00736659	0.0050000	0.0300000	0.00232952	0.14600	0.00005	50.456
OP-DDE	10	L 0.0017000	0.00149443	L 0.0010000	0.0050000	0.00047258	0.01700	0.00000	87.908
PP-DDE	10	0.0091000	0.00759313	0.0050000	0.0300000	0.00240116	0.09100	0.00006	83.441
OP-DDD	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDD	10	L 0.0050000	0.00230940	L 0.0020000	0.0090000	0.00073030	0.05000	0.00001	46.188
OP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000

APPENDIX 1 (a-1) cont'd.

YEAR=1980 SITE=EMERSON SPECIES=SAUGER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=80 SITE=BM004 SPECIES=18									
LENGTH	16	31.4937500	2.65919004	27.6000000	36.6000000	0.66479751	503.90000	7.07129	8.444
WEIGHT	16	315.6250000	87.63323190	200.0000000	520.0000000	21.90830798	5050.00000	7679.58333	27.765
AGE	16	4.6875000	0.70415434	4.0000000	6.0000000	0.17603858	75.00000	0.49583	15.022
SEX	16	2.5625000	0.51234754	2.0000000	3.0000000	0.12808688	41.00000	0.26250	19.994
A-1248	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
A-1254	10	L 0.0280000	0.02699794	L 0.0100000	0.0800000	0.00853750	0.28000	0.00073	96.421
A-1260	10	L 0.0180000	0.01316561	L 0.0100000	0.0400000	0.00416333	0.18000	0.00017	73.142
ALDRIN	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
CHLORDANE	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
DIELDRIN	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
ENDRIN	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
LINDANE	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
METHOXYCHLOR	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
TOTAL-DDT	10	0.0121000	0.00966609	0.0020000	0.0340000	0.00305669	0.12100	0.00009	79.865
OP-DDE	10	L 0.0032000	0.00229976	L 0.0010000	0.0080000	0.00072725	0.03200	0.00001	71.867
PP-DDE	10	0.0061000	0.00425441	0.0020000	0.0160000	0.00134536	0.06100	0.00002	69.744
OP-DDD	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDD	10	L 0.0041000	0.00284605	L 0.0020000	0.0100000	0.00090000	0.04100	0.00001	69.416
OP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000

YEAR=1981 SITE=EMERSON SPECIES=SAUGER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=81 SITE=BM004 SPECIES=18									
LENGTH	15	30.6733333	6.5789129	18.00000000	39.1000000	1.69866801	460.10000	43.2821	21.448
WEIGHT	15	338.0000000	199.7212343	40.00000000	710.0000000	51.56700095	5070.00000	39888.5714	59.089
AGE	15	4.4666667	1.8464896	2.00000000	7.0000000	0.47676156	67.00000	3.4095	41.339
SEX	15	2.7333333	0.4577377	2.00000000	3.0000000	0.11818737	41.00000	0.2095	16.747
A-1248	10	L 0.0060000	0.0000000	L 0.00600000	L 0.0060000	0.00000000	0.06000	0.0000	0.000
A-1254	10	L 0.0124000	0.0202386	L 0.00600000	0.0700000	0.00640000	0.12400	0.0004	163.214
A-1260	10	L 0.0310000	0.0236643	L 0.00600000	0.0820000	0.00748331	0.31000	0.0006	76.337
ALDRIN	10	L 0.0002000	0.0000000	L 0.00020000	L 0.0002000	0.00000000	0.00200	0.0000	0.000
CHLORDANE	10	L 0.0004000	0.0000000	L 0.00040000	L 0.0004000	0.00000000	0.00400	0.0000	0.000
DIELDRIN	10	L 0.0004000	0.0000000	L 0.00040000	L 0.0004000	0.00000000	0.00400	0.0000	0.000
ENDRIN	10	L 0.0009000	0.0000000	L 0.00090000	L 0.0009000	0.00000000	0.00900	0.0000	0.000
LINDANE	10	L 0.0002000	0.0000000	L 0.00020000	L 0.0002000	0.00000000	0.00200	0.0000	0.000
METHOXYCHLOR	10	L 0.0040000	0.0000000	L 0.00400000	L 0.0040000	0.00000000	0.04000	0.0000	0.000
TOTAL-DDT	10	0.0140500	0.0061661	0.00540000	0.0235000	0.00194989	0.14050	0.0000	43.887
OP-DDE	10	L 0.0020900	0.0023038	L 0.00040000	0.0065000	0.00072854	0.02090	0.0000	110.231
PP-DDE	10	0.0069400	0.0046342	0.00060000	0.0154000	0.00146547	0.06940	0.0000	66.776
OP-DDD	10	L 0.0008000	0.0000000	L 0.00080000	L 0.0008000	0.00000000	0.00800	0.0000	0.000
PP-DDD	10	L 0.0059200	0.0032608	L 0.00130000	0.0104000	0.00103116	0.05920	0.0000	55.081
OP-DDT	10	L 0.0008000	0.0000000	L 0.00080000	L 0.0008000	0.00000000	0.00800	0.0000	0.000
PP-DDT	10	L 0.0010000	0.0000000	L 0.00100000	L 0.0010000	0.00000000	0.01000	0.0000	0.000

APPENDIX 1 (a-1) cont'd. YEAR=1982 SITE=EMERSON SPECIES=SAUGER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=82 SITE=BM004 SPECIES=18									
LENGTH	20	29.1200000	4.8486135	20.00000000	36.8000000	1.08418293	582.40000	23.5091	16.650
WEIGHT	20	270.0000000	136.6131688	40.00000000	520.0000000	30.54763321	5400.00000	18663.1579	50.597
AGE	19	3.9473684	1.2681432	2.00000000	6.0000000	0.29093200	75.00000	1.6082	32.126
SEX	20	2.7500000	0.4442617	2.00000000	3.0000000	0.09933993	55.00000	0.1974	16.155
A-1248	10	L 0.0060000	0.0000000	L 0.00600000	L 0.0060000	0.00000000	0.06000	0.0000	0.000
A-1254	10	L 0.0060000	0.0000000	L 0.00600000	L 0.0060000	0.00000000	0.06000	0.0000	0.000
A-1260	10	L 0.0229000	0.0085563	L 0.01000000	0.0370000	0.00270576	0.22900	0.0001	37.364
ALDRIN	10	L 0.0002000	0.0000000	L 0.00020000	L 0.0002000	0.00000000	0.00200	0.0000	0.000
CHLORDANE	10	L 0.0003000	0.0000000	L 0.00030000	L 0.0003000	0.00000000	0.00300	0.0000	0.000
DIELDRIN	10	L 0.0004000	0.0000000	L 0.00040000	L 0.0004000	0.00000000	0.00400	0.0000	0.000
ENDRIN	10	L 0.0009000	0.0000000	L 0.00090000	L 0.0009000	0.00000000	0.00900	0.0000	0.000
LINDANE	10	L 0.0002000	0.0000000	L 0.00020000	L 0.0002000	0.00000000	0.00200	0.0000	0.000
METHOXYCHLOR	10	L 0.0040000	0.0000000	L 0.00400000	L 0.0040000	0.00000000	0.04000	0.0000	0.000
TOTAL-DDT	10	0.0145300	0.0082924	0.00740000	0.0352000	0.00262230	0.14530	0.0001	57.071
OP-DDE	10	0.0033700	0.0008982	0.00210000	0.0045000	0.00028404	0.03370	0.0000	26.653
PP-DDE	10	0.0075600	0.0084637	0.00250000	0.0313000	0.00267645	0.07560	0.0001	111.953
OP-DDD	10	L 0.0008000	0.0000000	L 0.00080000	L 0.0008000	0.00000000	0.00800	0.0000	0.000
PP-DDD	10	L 0.0039000	0.0024730	L 0.00100000	0.0074000	0.00078202	0.03900	0.0000	63.409
OP-DDT	10	L 0.0008000	0.0000000	L 0.00080000	L 0.0008000	0.00000000	0.00800	0.0000	0.000
PP-DDT	10	L 0.0010000	0.0000000	L 0.00100000	L 0.0010000	0.00000000	0.01000	0.0000	0.000

YEAR=1983 SITE=EMERSON SPECIES=SAUGER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=83 SITE=BM004 SPECIES=18									
LENGTH	6	32.3166667	1.25605202	29.9000000	33.3000000	0.51278109	193.90000	1.57767	3.887
WEIGHT	6	356.6666667	45.89843861	280.0000000	410.0000000	18.73795910	2140.00000	2106.66667	12.869
AGE	5	4.8000000	2.38746728	3.0000000	9.0000000	1.06770783	24.00000	5.70000	49.739
SEX	6	2.6666667	0.51639778	2.0000000	3.0000000	0.21081851	16.00000	0.26667	19.365
A-1248	6	L 0.0060000	0.00000000	L 0.0060000	L 0.0060000	0.00000000	0.03600	0.00000	0.000
A-1254	6	L 0.0060000	0.00000000	L 0.0060000	L 0.0060000	0.00000000	0.03600	0.00000	0.000
A-1260	6	0.0408333	0.04092636	0.0160000	0.1230000	0.01670812	0.24500	0.00167	100.228
ALDRIN	6	L 0.0002000	0.00000000	L 0.0002000	L 0.0002000	0.00000000	0.00120	0.00000	0.000
CHLORDANE	6	L 0.0003000	0.00000000	L 0.0003000	L 0.0003000	0.00000000	0.00180	0.00000	0.000
DIELDRIN	6	L 0.0004000	0.00000000	L 0.0004000	L 0.0004000	0.00000000	0.00240	0.00000	0.000
ENDRIN	6	L 0.0009000	0.00000000	L 0.0009000	L 0.0009000	0.00000000	0.00540	0.00000	0.000
LINDANE	6	L 0.0002000	0.00000000	L 0.0002000	L 0.0002000	0.00000000	0.00120	0.00000	0.000
METHOXYCHLOR	6	L 0.0040000	0.00000000	L 0.0040000	L 0.0040000	0.00000000	0.02400	0.00000	0.000
TOTAL-DDT	6	0.0221333	0.01764864	0.0083000	0.0559000	0.00720503	0.13280	0.00031	79.738
OP-DDE	6	0.0037833	0.00344930	0.0014000	0.0106000	0.00140817	0.02270	0.00001	91.171
PP-DDE	6	0.0145000	0.01535617	0.0049000	0.0453000	0.00626913	0.08700	0.00024	105.905
OP-DDD	6	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.00600	0.00000	0.000
PP-DDD	6	L 0.0040167	0.00286106	L 0.0010000	0.0092000	0.00116802	0.02410	0.00001	71.230
OP-DDT	6	L 0.0008000	0.00000000	L 0.0008000	L 0.0008000	0.00000000	0.00480	0.00000	0.000
PP-DDT	6	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.00600	0.00000	0.000

APPENDIX 1 (a-2).

YEAR=1978 SITE=EMERSON SPECIES=GOLDEYE

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SITE=BM004 SPECIES=27									
LENGTH	10	28.6700000	2.74713993	25.5000000	33.2000000	0.86872192	286.70000	7.54678	9.582
WEIGHT	10	272.0000000	70.83627445	200.0000000	410.0000000	22.40039682	2720.00000	5017.77778	26.043
AGE	10	7.2000000	1.31656118	6.0000000	10.0000000	0.41633320	72.00000	1.73333	18.286
SEX	10	2.3000000	0.48304589	2.0000000	3.0000000	0.15275252	23.00000	0.23333	21.002
A-1248	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
A-1254	10	0.4710000	0.42909336	0.0900000	1.2000000	0.13569123	4.71000	0.18412	91.103
A-1260	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
ALDRIN	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
CHLORDANE	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
DIELDRIN	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
ENDRIN	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
LINDANE	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
METHOXYCHLOR	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
TOTAL-DDT	10	0.0913000	0.07655071	0.0140000	0.2400000	0.02420746	0.91300	0.00586	83.845
OP-DDE	10	L 0.0013000	0.00094868	L 0.0010000	0.0040000	0.00030000	0.01300	0.00000	72.976
PP-DDE	10	0.0559000	0.05051611	0.0120000	0.1800000	0.01597460	0.55900	0.00255	90.369
OP-DDD	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDD	10	L 0.0271000	0.03838533	L 0.0020000	0.1200000	0.01213851	0.27100	0.00147	141.643
OP-DDT	10	L 0.0056000	0.01138420	L 0.0020000	0.0380000	0.00360000	0.05600	0.00013	203.289
PP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000

YEAR=1979 SITE=EMERSON SPECIES=GOLDEYE

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=79 SITE=BM004 SPECIES=27									
LENGTH	10	28.8800000	3.41623575	23.3000000	33.7000000	1.08030860	288.80000	11.67067	11.829
WEIGHT	10	271.0000000	97.80365819	150.0000000	400.0000000	30.92823234	2710.00000	9565.55556	36.090
AGE	10	6.4000000	1.50554531	5.0000000	9.0000000	0.47609523	64.00000	2.26667	23.524
SEX	10	2.1000000	0.73786479	1.0000000	3.0000000	0.23333333	21.00000	0.54444	35.136
A-1248	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
A-1254	10	0.2580000	0.14382088	0.1500000	0.6400000	0.04548015	2.58000	0.02068	55.745
A-1260	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
ALDRIN	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
CHLORDANE	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
DIELDRIN	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
ENDRIN	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
LINDANE	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
METHOXYCHLOR	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
TOTAL-DDT	10	0.0244000	0.02043526	0.0100000	0.0790000	0.00646220	0.24400	0.00042	83.751
OP-DDE	10	L 0.0018000	0.00252982	L 0.0010000	0.0090000	0.00080000	0.01800	0.00001	140.546
PP-DDE	10	0.0195000	0.00794775	0.0100000	0.0300000	0.00251330	0.19500	0.00006	40.758
OP-DDD	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDD	10	L 0.0048000	0.00885438	L 0.0020000	0.0300000	0.00280000	0.04800	0.00008	184.466
OP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDT	10	L 0.0028000	0.00252982	L 0.0020000	0.0100000	0.00080000	0.02800	0.00001	90.351

APPENDIX 1 (a-2) cont'd.

YEAR=1980 SITE=EMERSON SPECIES=GOLDEYE

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=80 SITE=BM004 SPECIES=27									
LENGTH	10	28.6300000	1.36222857	26.8000000	31.1000000	0.43077450	286.30000	1.85567	4.758
WEIGHT	10	287.0000000	41.91260749	220.0000000	360.0000000	13.25393023	2870.00000	1756.66667	14.604
AGE	10	5.2000000	0.63245553	4.0000000	6.0000000	0.20000000	52.00000	0.40000	12.163
SEX	10	2.1000000	0.31622777	2.0000000	3.0000000	0.10000000	21.00000	0.10000	15.058
A-1248	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
A-1254	10	0.1080000	0.05573748	0.0400000	0.1700000	0.01762574	1.08000	0.00311	51.609
A-1260	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
ALDRIN	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
CHLORDANE	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
DIELDRIN	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
ENDRIN	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
LINDANE	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
METHOXYCHLOR	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
TOTAL-DDT	10	0.0458000	0.04796943	0.0060000	0.1450000	0.01516927	0.45800	0.00230	104.737
OP-DDE	10	L 0.0075000	0.00863134	L 0.0010000	0.0220000	0.00272947	0.07500	0.00007	115.085
PP-DDE	10	0.0236000	0.02856649	0.0030000	0.0920000	0.00903352	0.23600	0.00082	121.044
OP-DDD	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDD	10	0.0170000	0.01852926	0.0030000	0.0510000	0.00585947	0.17000	0.00034	108.996
OP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000

YEAR=1981 SITE=EMERSON SPECIES=GOLDEYE

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=81 SITE=BM004 SPECIES=27									
LENGTH	10	30.0200000	2.16322804	25.8000000	32.7000000	0.68407277	300.20000	4.67956	7.206
WEIGHT	10	351.0000000	94.21606374	200.0000000	540.0000000	29.79373536	3510.00000	8876.66667	26.842
AGE	10	5.5000000	0.70710678	5.0000000	7.0000000	0.22360680	55.00000	0.50000	12.856
SEX	10	2.5000000	0.52704628	2.0000000	3.0000000	0.16666667	25.00000	0.27778	21.082
A-1248	10	L 0.0060000	0.00000000	L 0.0060000	L 0.0060000	0.00000000	0.06000	0.00000	0.000
A-1254	10	L 0.0060000	0.00000000	L 0.0060000	L 0.0060000	0.00000000	0.06000	0.00000	0.000
A-1260	10	L 0.1027000	0.09035615	L 0.0060000	0.2720000	0.02857312	1.02700	0.00816	87.981
ALDRIN	10	L 0.0002000	0.00000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.00000	0.000
CHLORDANE	10	L 0.0004000	0.00000000	L 0.0004000	L 0.0004000	0.00000000	0.00400	0.00000	0.000
DIELDRIN	10	L 0.0004000	0.00000000	L 0.0004000	L 0.0004000	0.00000000	0.00400	0.00000	0.000
ENDRIN	10	L 0.0009000	0.00000000	L 0.0009000	L 0.0009000	0.00000000	0.00900	0.00000	0.000
LINDANE	10	L 0.0002000	0.00000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.00000	0.000
METHOXYCHLOR	10	L 0.0040000	0.00000000	L 0.0040000	L 0.0040000	0.00000000	0.04000	0.00000	0.000
TOTAL-DDT	10	0.0737600	0.05926729	0.0190000	0.2040000	0.01874196	0.73760	0.00351	80.352
OP-DDE	10	L 0.0071300	0.01009335	L 0.0004000	0.0300000	0.00319180	0.07130	0.00010	141.562
PP-DDE	10	0.0366600	0.02413684	0.0110000	0.0880000	0.00763274	0.36660	0.00058	65.840
OP-DDD	10	L 0.0008000	0.00000000	L 0.0008000	L 0.0008000	0.00000000	0.00800	0.00000	0.000
PP-DDD	10	0.0303000	0.03019084	0.0013000	0.0860000	0.00954718	0.30300	0.00091	99.640
OP-DDT	10	L 0.0008000	0.00000000	L 0.0008000	L 0.0008000	0.00000000	0.00800	0.00000	0.000
PP-DDT	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000

APPENDIX 1 (a-2) cont'd. YEAR=1982 SITE=EMERSON SPECIES=GOLDEYE

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=82 SITE=BM004 SPECIES=27									
LENGTH	10	28.7000000	2.26617642	25.6000000	33.0000000	0.71662791	287.00000	5.13556	7.896
WEIGHT	10	274.0000000	81.13089561	180.0000000	460.0000000	25.65584187	2740.00000	6582.22222	29.610
AGE	10	3.3000000	0.48304589	3.0000000	4.0000000	0.15275252	33.00000	0.23333	14.638
SEX	10	2.1000000	0.73786479	1.0000000	3.0000000	0.23333333	21.00000	0.54444	35.136
A-1248	10	L 0.0060000	0.00000000	L 0.0060000	L 0.0060000	0.00000000	0.06000	0.00000	0.000
A-1254	10	L 0.0060000	0.00000000	L 0.0060000	L 0.0060000	0.00000000	0.06000	0.00000	0.000
A-1260	10	L 0.0738000	0.04739151	L 0.0220000	0.1590000	0.01498651	0.73800	0.00225	64.216
ALDRIN	10	L 0.0002000	0.00000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.00000	0.000
CHLORDANE	10	L 0.0003000	0.00000000	L 0.0003000	L 0.0003000	0.00000000	0.00300	0.00000	0.000
DIELDRIN	10	L 0.0004000	0.00000000	L 0.0004000	L 0.0004000	0.00000000	0.00400	0.00000	0.000
ENDRIN	10	L 0.0009000	0.00000000	L 0.0009000	L 0.0009000	0.00000000	0.00900	0.00000	0.000
LINDANE	10	L 0.0002000	0.00000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.00000	0.000
METHOXYCHLOR	10	L 0.0040000	0.00000000	L 0.0040000	L 0.0040000	0.00000000	0.04000	0.00000	0.000
TOTAL-DDT	10	0.0737300	0.03888350	0.0267000	0.1352000	0.01229604	0.73730	0.00151	52.738
OP-DDE	10	0.0171600	0.00942646	0.0065000	0.0352000	0.00298091	0.17160	0.00009	54.933
PP-DDE	10	0.0361400	0.02370856	0.0111000	0.0891000	0.00749731	0.36140	0.00056	65.602
OP-DDD	10	L 0.0008000	0.00000000	L 0.0008000	L 0.0008000	0.00000000	0.00800	0.00000	0.000
PP-DDD	10	0.0204300	0.00985033	0.0081000	0.0393000	0.00311495	0.20430	0.00010	48.215
OP-DDT	10	L 0.0008000	0.00000000	L 0.0008000	L 0.0008000	0.00000000	0.00800	0.00000	0.000
PP-DDT	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000

YEAR=1983 SITE=EMERSON SPECIES=GOLDEYE

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=83 SITE=BM004 SPECIES=27									
LENGTH	10	28.8900000	2.00579715	26.7000000	33.2000000	0.63428875	288.90000	4.02322	6.943
WEIGHT	10	284.0000000	71.52311204	200.0000000	410.0000000	22.61759394	2840.00000	5115.55556	25.184
AGE	10	3.7000000	0.82327260	3.0000000	5.0000000	0.26034166	37.00000	0.67778	22.251
SEX	10	2.3000000	0.48304589	2.0000000	3.0000000	0.15275252	23.00000	0.23333	21.002
A-1248	10	L 0.0060000	0.00000000	L 0.0060000	L 0.0060000	0.00000000	0.06000	0.00000	0.000
A-1254	10	L 0.0060000	0.00000000	L 0.0060000	L 0.0060000	0.00000000	0.06000	0.00000	0.000
A-1260	10	0.0875000	0.05698197	0.0290000	0.1990000	0.01801928	0.87500	0.00325	65.122
ALDRIN	10	L 0.0002000	0.00000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.00000	0.000
CHLORDANE	10	L 0.0003000	0.00000000	L 0.0003000	L 0.0003000	0.00000000	0.00300	0.00000	0.000
DIELDRIN	10	L 0.0004000	0.00000000	L 0.0004000	L 0.0004000	0.00000000	0.00400	0.00000	0.000
ENDRIN	10	L 0.0009000	0.00000000	L 0.0009000	L 0.0009000	0.00000000	0.00900	0.00000	0.000
LINDANE	10	L 0.0002000	0.00000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.00000	0.000
METHOXYCHLOR	10	L 0.0040000	0.00000000	L 0.0040000	L 0.0040000	0.00000000	0.04000	0.00000	0.000
TOTAL-DDT	10	0.0426600	0.02122295	0.0169000	0.0935000	0.00671129	0.42660	0.00045	49.749
OP-DDE	10	0.0084100	0.00500698	0.0033000	0.0210000	0.00158335	0.08410	0.00003	59.536
PP-DDE	10	0.0265400	0.01404035	0.0113000	0.0531000	0.00443995	0.26540	0.00020	52.903
OP-DDD	10	L 0.0008200	0.00006325	L 0.0008000	L 0.0010000	0.00002000	0.00820	0.00000	7.713
PP-DDD	10	L 0.0078100	0.00578282	L 0.0010000	0.0194000	0.00182869	0.07810	0.00003	74.044
OP-DDT	10	L 0.0008000	0.00000000	L 0.0008000	L 0.0008000	0.00000000	0.00800	0.00000	0.000
PP-DDT	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000

APPENDIX 1 (a-3). YEAR=1978 SITE=EMERSON SPECIES=WALLEYE

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SITE=BM004 SPECIES=17									
LENGTH	10	36.9200000	5.6887413	30.3000000	45.300000	1.79893796	369.20000	32.3618	15.408
WEIGHT	10	542.0000000	261.5679219	280.0000000	1040.000000	82.71503961	5420.00000	68417.7778	48.260
AGE	10	4.2000000	1.3165612	3.0000000	7.000000	0.41633320	42.00000	1.7333	31.347
SEX	10	2.7000000	0.4830459	2.0000000	3.000000	0.15275252	27.00000	0.2333	17.891
A-1248	10	L 0.0100000	0.0000000	L 0.0100000	L 0.010000	0.00000000	0.10000	0.0000	0.000
A-1254	10	0.1530000	0.1239220	0.0100000	0.350000	0.03918758	1.53000	0.0154	80.995
A-1260	10	L 0.0100000	0.0000000	L 0.0100000	L 0.010000	0.00000000	0.10000	0.0000	0.000
ALDRIN	10	L 0.0020000	0.0000000	L 0.0020000	L 0.002000	0.00000000	0.02000	0.0000	0.000
CHLORDANE	10	L 0.0050000	0.0000000	L 0.0050000	L 0.005000	0.00000000	0.05000	0.0000	0.000
DIELDRIN	10	L 0.0010000	0.0000000	L 0.0010000	L 0.001000	0.00000000	0.01000	0.0000	0.000
ENDRIN	10	L 0.0050000	0.0000000	L 0.0050000	L 0.005000	0.00000000	0.05000	0.0000	0.000
LINDANE	10	L 0.0012000	0.0006325	L 0.0010000	0.003000	0.00020000	0.01200	0.0000	52.705
METHOXYCHLOR	10	L 0.0050000	0.0000000	L 0.0050000	L 0.005000	0.00000000	0.05000	0.0000	0.000
TOTAL-DDT	10	0.0243000	0.0138086	0.0060000	0.045000	0.00436667	0.24300	0.0002	56.826
OP-DDE	10	L 0.0024000	0.0030984	L 0.0010000	0.010000	0.00097980	0.02400	0.0000	129.099
PP-DDE	10	0.0212000	0.0104222	0.0060000	0.040000	0.00329579	0.21200	0.0001	49.161
OP-DDD	10	L 0.0020000	0.0000000	L 0.0020000	L 0.002000	0.00000000	0.02000	0.0000	0.000
PP-DDD	10	L 0.0025000	0.0015811	L 0.0020000	0.007000	0.00050000	0.02500	0.0000	63.246
OP-DDT	10	L 0.0025000	0.0015811	L 0.0020000	0.007000	0.00050000	0.02500	0.0000	63.246
PP-DDT	10	L 0.0020000	0.0000000	L 0.0020000	L 0.002000	0.00000000	0.02000	0.0000	0.000

YEAR=1979 SITE=EMERSON SPECIES=WALLEYE

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=79 SITE=BM004 SPECIES=17									
LENGTH	4	54.075000	10.980703	39.7000000	64.100000	5.4903514	216.30000	120.58	20.306
WEIGHT	4	2097.500000	1203.920678	700.0000000	3290.000000	601.9603392	8390.00000	1449425.00	57.398
AGE	4	7.250000	1.707825	5.0000000	9.000000	0.8539126	29.00000	2.92	23.556
SEX	4	2.750000	0.500000	2.0000000	3.000000	0.2500000	11.00000	0.25	18.182
A-1248	4	L 0.010000	0.000000	L 0.0100000	L 0.010000	0.0000000	0.04000	0.00	0.000
A-1254	4	0.077500	0.073201	0.0200000	0.180000	0.0366003	0.31000	0.01	94.452
A-1260	4	L 0.010000	0.000000	L 0.0100000	L 0.010000	0.0000000	0.04000	0.00	0.000
ALDRIN	4	L 0.002000	0.000000	L 0.0020000	L 0.002000	0.0000000	0.00800	0.00	0.000
CHLORDANE	4	L 0.005000	0.000000	L 0.0050000	L 0.005000	0.0000000	0.02000	0.00	0.000
DIELDRIN	4	L 0.001000	0.000000	L 0.0010000	L 0.001000	0.0000000	0.00400	0.00	0.000
ENDRIN	4	L 0.005000	0.000000	L 0.0050000	L 0.005000	0.0000000	0.02000	0.00	0.000
LINDANE	4	L 0.001000	0.000000	L 0.0010000	L 0.001000	0.0000000	0.00400	0.00	0.000
METHOXYCHLOR	4	L 0.005000	0.000000	L 0.0050000	L 0.005000	0.0000000	0.02000	0.00	0.000
TOTAL-DDT	4	L 0.020000	0.033397	L 0.0010000	0.070000	0.0166983	0.08000	0.00	166.983
OP-DDE	4	L 0.001000	0.000000	L 0.0010000	L 0.001000	0.0000000	0.00400	0.00	0.000
PP-DDE	4	L 0.020000	0.033397	L 0.0010000	0.070000	0.0166983	0.08000	0.00	166.983
OP-DDD	4	L 0.002000	0.000000	L 0.0020000	L 0.002000	0.0000000	0.00800	0.00	0.000
PP-DDD	4	L 0.002000	0.000000	L 0.0020000	L 0.002000	0.0000000	0.00800	0.00	0.000
OP-DDT	4	L 0.002000	0.000000	L 0.0020000	L 0.002000	0.0000000	0.00800	0.00	0.000
PP-DDT	4	L 0.002000	0.000000	L 0.0020000	L 0.002000	0.0000000	0.00800	0.00	0.000

APPENDIX 1 (a-3) cont'd. YEAR=1980 SITE=EMERSON SPECIES=WALLEYE

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=80 SITE=BM004 SPECIES=17									
LENGTH	4	32.0250000	1.6997549	29.6000000	33.3000000	0.84987744	128.10000	2.8892	5.308
WEIGHT	4	427.5000000	195.3415812	260.0000000	710.0000000	97.67079058	1710.00000	38158.3333	45.694
AGE	4	4.2500000	0.5000000	4.0000000	5.0000000	0.25000000	17.00000	0.2500	11.765
SEX	4	3.0000000	0.0000000	3.0000000	3.0000000	0.00000000	12.00000	0.0000	0.000
A-1248	4	L 0.0100000	0.0000000	L 0.0100000	L 0.0100000	0.00000000	0.04000	0.0000	0.000
A-1254	4	0.0525000	0.0262996	0.0300000	0.0900000	0.01314978	0.21000	0.0007	50.094
A-1260	4	L 0.0100000	0.0000000	L 0.0100000	L 0.0100000	0.00000000	0.04000	0.0000	0.000
ALDRIN	4	L 0.0020000	0.0000000	L 0.0020000	L 0.0020000	0.00000000	0.00800	0.0000	0.000
CHLORDANE	4	L 0.0050000	0.0000000	L 0.0050000	L 0.0050000	0.00000000	0.02000	0.0000	0.000
DIELDRIN	4	L 0.0010000	0.0000000	L 0.0010000	L 0.0010000	0.00000000	0.00400	0.0000	0.000
ENDRIN	4	L 0.0050000	0.0000000	L 0.0050000	L 0.0050000	0.00000000	0.02000	0.0000	0.000
LINDANE	4	L 0.0010000	0.0000000	L 0.0010000	L 0.0010000	0.00000000	0.00400	0.0000	0.000
METHOXYCHLOR	4	L 0.0050000	0.0000000	L 0.0050000	L 0.0050000	0.00000000	0.02000	0.0000	0.000
TOTAL-DDT	4	0.0110000	0.0078740	0.0030000	0.0200000	0.00393700	0.04400	0.0001	71.582
OP-DDE	4	L 0.0027500	0.0020616	L 0.0010000	0.0050000	0.00103078	0.01100	0.0000	74.966
PP-DDE	4	0.0070000	0.0040825	0.0030000	0.0110000	0.00204124	0.02800	0.0000	58.321
OP-DDD	4	L 0.0020000	0.0000000	L 0.0020000	L 0.0020000	0.00000000	0.00800	0.0000	0.000
PP-DDD	4	L 0.0027500	0.0015000	L 0.0020000	0.0050000	0.00075000	0.01100	0.0000	54.545
OP-DDT	4	L 0.0020000	0.0000000	L 0.0020000	L 0.0020000	0.00000000	0.00800	0.0000	0.000
PP-DDT	4	L 0.0020000	0.0000000	L 0.0020000	L 0.0020000	0.00000000	0.00800	0.0000	0.000

YEAR=1981 SITE=EMERSON SPECIES=WALLEYE

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=81 SITE=BM004 SPECIES=17									
LENGTH	6	41.7000000	7.1688214	34.2000000	54.000000	2.9266591	250.20000	51.392	17.191
WEIGHT	6	860.0000000	643.7390776	360.0000000	2120.000000	262.8053779	5160.00000	414400.000	74.853
AGE	6	4.5000000	3.2093613	3.0000000	11.000000	1.3102163	27.00000	10.300	71.319
SEX	6	2.6666667	0.5163978	2.0000000	3.000000	0.2108185	16.00000	0.267	19.365
A-1248	6	L 0.0060000	0.0000000	L 0.0060000	L 0.006000	0.0000000	0.03600	0.000	0.000
A-1254	6	L 0.0060000	0.0000000	L 0.0060000	L 0.006000	0.0000000	0.03600	0.000	0.000
A-1260	6	L 0.0576667	0.0>84933	L 0.0060000	0.154000	0.0238798	0.34600	0.003	101.433
ALDRIN	6	L 0.0002000	0.0000000	L 0.0002000	L 0.000200	0.0000000	0.00120	0.000	0.000
CHLORDANE	6	L 0.0004000	0.0000000	L 0.0004000	L 0.000400	0.0000000	0.00240	0.000	0.000
DIELDRIN	6	L 0.0004000	0.0000000	L 0.0004000	L 0.000400	0.0000000	0.00240	0.000	0.000
ENDRIN	6	L 0.0009000	0.0000000	L 0.0009000	L 0.000900	0.0000000	0.00540	0.000	0.000
LINDANE	6	L 0.0002000	0.0000000	L 0.0002000	L 0.000200	0.0000000	0.00120	0.000	0.000
METHOXYCHLOR	6	L 0.0040000	0.0000000	L 0.0040000	L 0.004000	0.0000000	0.02400	0.000	0.000
TOTAL-DDT	6	0.0504833	0.0409052	0.0082000	0.092200	0.0166995	0.30290	0.002	81.027
OP-DDE	6	L 0.0081167	0.0105850	L 0.0004000	0.023400	0.0043213	0.04870	0.000	130.410
PP-DDE	6	0.0296167	0.0253631	0.0038000	0.068800	0.0103544	0.1777[illegible]	0.001	85.638
OP-DDD	6	L 0.0008000	0.0000000	L 0.0008000	L 0.000800	0.0000000	0.00480	0.000	0.000
PP-DDD	6	L 0.0133833	0.0161611	L 0.0013000	0.036500	0.0065977	0.08030	0.000	120.756
OP-DDT	6	L 0.0008000	0.0000000	L 0.0008000	L 0.000800	0.0000000	0.00480	0.000	0.000
PP-DDT	6	L 0.0010000	0.0000000	L 0.0010000	L 0.001000	0.0000000	0.00600	0.000	0.000

APPENDIX 1 (a-3) cont'd. YEAR=1982 SITE=EMERSON SPECIES=WALLEYE

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=82 SITE=BM004 SPECIES=17									
LENGTH	8	40.4250000	4.1671333	32.8000000	44.3000000	1.47330411	323.40000	17.3650	10.308
WEIGHT	8	701.2500000	214.7714732	360.0000000	980.0000000	75.93318256	5610.00000	46126.7857	30.627
AGE	7	4.4285714	2.8199966	2.0000000	9.0000000	1.06585854	31.00000	7.9524	63.677
SEX	8	2.6250000	0.5175492	2.0000000	3.0000000	0.18298126	21.00000	0.2679	19.716
A-1248	8	L 0.0060000	0.0000000	L 0.0060000	L 0.0060000	0.00000000	0.04800	0.0000	0.000
A-1254	8	L 0.0060000	0.0000000	L 0.0060000	L 0.0060000	0.00000000	0.04800	0.0000	0.000
A-1260	8	L 0.0253750	0.0167583	L 0.0060000	0.0540000	0.00592494	0.20300	0.0003	66.042
ALDRIN	8	L 0.0002000	0.0000000	L 0.0002000	L 0.0002000	0.00000000	0.00160	0.0000	0.000
CHLORDANE	8	L 0.0003000	0.0000000	L 0.0003000	L 0.0003000	0.00000000	0.00240	0.0000	0.000
DIELDRIN	8	L 0.0004000	0.0000000	L 0.0004000	L 0.0004000	0.00000000	0.00320	0.0000	0.000
ENDRIN	8	L 0.0009000	0.0000000	L 0.0009000	L 0.0009000	0.00000000	0.00720	0.0000	0.000
LINDANE	8	L 0.0002000	0.0000000	L 0.0002000	L 0.0002000	0.00000000	0.00160	0.0000	0.000
METHOXYCHLOR	8	L 0.0040000	0.0000000	L 0.0040000	L 0.0040000	0.00000000	0.03200	0.0000	0.000
TOTAL-DDT	8	L 0.0165000	0.0204336	L 0.0002000	0.0595000	0.00722436	0.13200	0.0004	123.840
OP-DDE	8	L 0.0039750	0.0056581	L 0.0004000	0.0164000	0.00200042	0.03180	0.0000	142.341
PP-DDE	8	L 0.0087125	0.0094064	L 0.0003000	0.0275000	0.00332568	0.06970	0.0001	107.965
OP-DDD	8	L 0.0008000	0.0000000	L 0.0008000	L 0.0008000	0.00000000	0.00640	0.0000	0.000
PP-DDD	8	L 0.0043000	0.0051403	L 0.0010000	0.0156000	0.00181738	0.03440	0.0000	119.542
OP-DDT	8	L 0.0008000	0.0000000	L 0.0008000	L 0.0008000	0.00000000	0.00640	0.0000	0.000
PP-DDT	8	L 0.0010000	0.0000000	L 0.0010000	L 0.0010000	0.00000000	0.00800	0.0000	0.000

YEAR=1983 SITE=EMERSON SPECIES=WALLEYE

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=83 SITE=BM004 SPECIES=17									
LENGTH	1	53.200000	.	53.200000	53.200000	.	53.20000	.	.
WEIGHT	1	1460.000000	.	1460.000000	1460.000000	.	1460.00000	.	.
AGE	1	9.000000	.	9.000000	9.000000	.	9.00000	.	.
SEX	1	3.000000	.	3.000000	3.000000	.	3.00000	.	.
A-1248	1	L 0.006000	.	L 0.006000	L 0.006000	.	0.00600	.	.
A-1254	1	L 0.006000	.	L 0.006000	L 0.006000	.	0.00600	.	.
A-1260	1	0.101000	.	0.101000	0.101000	.	0.10100	.	.
ALDRIN	1	L 0.000200	.	L 0.000200	L 0.000200	.	0.00020	.	.
CHLORDANE	1	L 0.000300	.	L 0.000300	L 0.000300	.	0.00030	.	.
DIELDRIN	1	L 0.000400	.	L 0.000400	L 0.000400	.	0.00040	.	.
ENDRIN	1	L 0.000900	.	L 0.000900	L 0.000900	.	0.00090	.	.
LINDANE	1	L 0.000200	.	L 0.000200	L 0.000200	.	0.00020	.	.
METHOXYCHLOR	1	L 0.004000	.	L 0.004000	L 0.004000	.	0.00400	.	.
TOTAL-DDT	1	0.108800	.	0.108800	0.108800	.	0.10880	.	.
OP-DDE	1	0.011200	.	0.011200	0.011200	.	0.01120	.	.
PP-DDE	1	0.080400	.	0.080400	0.080400	.	0.08040	.	.
OP-DDD	1	L 0.000800	.	L 0.000800	L 0.000800	.	0.00080	.	.
PP-DDD	1	0.017200	.	0.017200	0.017200	.	0.01720	.	.
OP-DDT	1	L 0.000800	.	L 0.000800	L 0.000800	.	0.00080	.	.
PP-DDT	1	L 0.001000	.	L 0.001000	L 0.001000	.	0.00100	.	.

APPENDIX 1 (b-1). YEAR=1978 SITE=ST NORBERT SPECIES=SAUGER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SITE=BM005 SPECIES=18									
LENGTH	10	30.0000000	4.75698317	26.6000000	42.8000000	1.50429016	300.00000	22.62889	15.857
WEIGHT	10	219.5000000	74.40318094	140.0000000	370.0000000	23.52835169	2195.00000	5535.83333	33.897
AGE	10	2.9000000	0.73786479	2.0000000	4.0000000	0.23333333	29.00000	0.54444	25.444
SEX	10	2.7000000	0.48304589	2.0000000	3.0000000	0.15275252	27.00000	0.23333	17.891
A-1248	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
A-1254	10	L 0.0620000	0.05072803	L 0.0100000	0.1400000	0.01604161	0.62000	0.00257	81.819
A-1260	10	L 0.0270000	0.02710064	L 0.0100000	0.0800000	0.00856997	0.27000	0.00073	100.373
ALDRIN	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
CHLORDANE	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
DIELDRIN	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
ENDRIN	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
LINDANE	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
METHOXYCHLOR	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
TOTAL-DDT	10	0.0162000	0.00953124	0.0040000	0.0330000	0.00301404	0.16200	0.00009	58.835
OP-DDE	10	L 0.0028000	0.00198886	L 0.0010000	0.0070000	0.00062893	0.02800	0.00000	71.031
PP-DDE	10	0.0085000	0.00356682	0.0030000	0.0140000	0.00112793	0.08500	0.00001	41.963
OP-DDD	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDD	10	L 0.0059000	0.00428045	L 0.0020000	0.0140000	0.00135360	0.05900	0.00002	72.550
OP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000

YEAR=1979 SITE=ST NORBERT SPECIES=SAUGER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=79 SITE=BM005 SPECIES=18									
LENGTH	10	30.3700000	2.02980568	27.6000000	34.5000000	0.64186092	303.70000	4.12011	6.684
WEIGHT	10	311.0000000	66.40783086	190.0000000	400.0000000	21.00000000	3110.00000	4410.00000	21.353
AGE	10	4.3000000	0.67494856	3.0000000	5.0000000	0.21343747	43.00000	0.45556	15.696
SEX	10	2.9000000	0.31622777	2.0000000	3.0000000	0.10000000	29.00000	0.10000	10.904
A-1248	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
A-1254	10	0.0480000	0.01229273	0.0200000	0.0600000	0.00388730	0.48000	0.00015	25.610
A-1260	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
ALDRIN	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
CHLORDANE	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
DIELDRIN	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
ENDRIN	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
LINDANE	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
METHOXYCHLOR	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
TOTAL-DDT	10	L 0.0031000	0.00152388	L 0.0010000	0.0050000	0.00048189	0.03100	0.00000	49.158
OP-DDE	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
PP-DDE	10	L 0.0031000	0.00152388	L 0.0010000	0.0050000	0.00048189	0.03100	0.00000	49.158
OP-DDD	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDD	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
OP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000

APPENDIX 1 (b-1) cont'd. YEAR=1980 SITE=ST NORBERT SPECIES=SAUGER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=80 SITE=BM005 SPECIES=18									
LENGTH	20	33.3150000	4.99792325	27.0000000	42.8000000	1.11756961	666.30000	24.97924	15.002
WEIGHT	20	327.5000000	58.65824302	200.0000000	420.0000000	13.11638188	6550.00000	3440.78947	17.911
AGE	20	4.5000000	0.51298918	4.0000000	5.0000000	0.11470787	90.00000	0.26316	11.400
SEX	20	2.8500000	0.36634755	2.0000000	3.0000000	0.08191700	57.00000	0.13421	12.854
A-1248	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
A-1254	10	L 0.0240000	0.01173788	L 0.0100000	0.0400000	0.00371184	0.24000	0.00014	48.908
A-1260	10	L 0.0160000	0.01897367	L 0.0100000	0.0700000	0.00600000	0.16000	0.00036	118.585
ALDRIN	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
CHLORDANE	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
DIELDRIN	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
ENDRIN	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
LINDANE	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
METHOXYCHLOR	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
TOTAL-DDT	10	L 0.0050000	0.00298142	L 0.0010000	0.0080000	0.00094281	0.05000	0.00001	59.628
OP-DDE	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
PP-DDE	10	L 0.0027000	0.00141814	L 0.0010000	0.0050000	0.00044845	0.02700	0.00000	52.524
OP-DDD	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDD	10	L 0.0028000	0.00078881	L 0.0020000	0.0040000	0.00024944	0.02800	0.00000	28.172
OP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000

YEAR=1981 SITE=ST NORBERT SPECIES=SAUGER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=81 SITE=BM005 SPECIES=18									
LENGTH	16	30.1125000	5.8515952	19.20000000	36.4000000	1.46289881	481.80000	34.2412	19.432
WEIGHT	16	320.6250000	166.8719569	60.00000000	520.0000000	41.71798923	5130.00000	27846.2500	52.046
AGE	16	4.5625000	1.7114808	2.00000000	7.0000000	0.42787021	73.00000	2.9292	37.512
SEX	16	2.8750000	0.3415650	2.00000000	3.0000000	0.08539126	46.00000	0.1167	11.881
A-1248	10	L 0.0060000	0.0000000	L 0.00600000	L 0.0060000	0.00000000	0.06000	0.0000	0.000
A-1254	10	L 0.0060000	0.0000000	L 0.00600000	L 0.0060000	0.00000000	0.06000	0.0000	0.000
A-1260	10	L 0.0165000	0.0063814	L 0.00600000	0.0290000	0.00201797	0.16500	0.0000	38.675
ALDRIN	10	L 0.0002000	0.0000000	L 0.00020000	L 0.0002000	0.00000000	0.00200	0.0000	0.000
CHLORDANE	10	L 0.0007800	0.0008496	L 0.00040000	0.0029000	0.00026866	0.00780	0.0000	108.920
DIELDRIN	10	L 0.0004000	0.0000000	L 0.00040000	L 0.0004000	0.00000000	0.00400	0.0000	0.000
ENDRIN	10	L 0.0009000	0.0000000	L 0.00090000	L 0.0009000	0.00000000	0.00900	0.0000	0.000
LINDANE	10	L 0.0002000	0.0000000	L 0.00020000	L 0.0002000	0.00000000	0.00200	0.0000	0.000
METHOXYCHLOR	10	L 0.0040000	0.0000000	L 0.00400000	L 0.0040000	0.00000000	0.04000	0.0000	0.000
TOTAL-DDT	10	0.0103400	0.0033487	0.00350000	0.0161000	0.00105895	0.10340	0.0000	32.386
OP-DDE	10	0.0019900	0.0010082	0.00070000	0.0042000	0.00031883	0.01990	0.0000	50.666
PP-DDE	10	0.0046000	0.0014568	0.00280000	0.0073000	0.00046068	0.04600	0.0000	31.669
OP-DDD	10	L 0.0008000	0.0000000	L 0.00080000	L 0.0008000	0.00000000	0.00800	0.0000	0.000
PP-DDD	10	L 0.0040100	0.0016489	L 0.00130000	0.0063000	0.00052142	0.04010	0.0000	41.119
OP-DDT	10	L 0.0006000	0.0000000	L 0.00060000	L 0.0006000	0.00000000	0.00600	0.0000	0.000
PP-DDT	10	L 0.0010000	0.0000000	L 0.00100000	L 0.0010000	0.00000000	0.01000	0.0000	0.000

APPENDIX 1 (b-1) cont'd. YEAR=1982 SITE=ST NORBERT SPECIES=SAUGER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=82 SITE=BM005 SPECIES=18									
LENGTH	19	30.9473684	5.1204783	15.70000000	39.8000000	1.17471829	588.00000	26.2193	16.546
WEIGHT	19	364.2105263	163.7517019	20.00000000	740.0000000	37.56721687	6920.00000	26814.6199	44.961
AGE	19	4.1578947	1.6419216	2.00000000	8.0000000	0.37668264	79.00000	2.6959	39.489
SEX	19	2.6842105	0.5823927	1.00000000	3.0000000	0.13361005	51.00000	0.3392	21.697
A-1248	10	L 0.0060000	0.0000000	L 0.00600000	L 0.0060000	0.00000000	0.06000	0.0000	0.000
A-1254	10	L 0.0060000	0.0000000	L 0.00600000	0.0060000	0.00000000	0.06000	0.0000	0.000
A-1260	10	0.0245000	0.0153786	0.01000000	0.0640000	0.00486313	0.24500	0.0002	62.770
ALDRIN	10	L 0.0002000	0.0000000	L 0.00020000	L 0.0002000	0.00000000	0.00200	0.0000	0.000
CHLORDANE	10	L 0.0003000	0.0000000	L 0.00030000	L 0.0003000	0.00000000	0.00300	0.0000	0.000
DIELDRIN	10	L 0.0004000	0.0000000	L 0.00040000	L 0.0004000	0.00000000	0.00400	0.0000	0.000
ENDRIN	10	L 0.0009000	0.0000000	L 0.00090000	L 0.0009000	0.00000000	0.00900	0.0000	0.000
LINDANE	10	L 0.0002000	0.0000000	L 0.00020000	L 0.0002000	0.00000000	0.00200	0.0000	0.000
METHOXYCHLOR	10	L 0.0040000	0.0000000	L 0.00400000	L 0.0040000	0.00000000	0.04000	0.0000	0.000
TOTAL-DDT	10	0.0140600	0.0061254	0.00640000	0.0269000	0.00193702	0.14060	0.0000	43.566
OP-DDE	10	0.0039500	0.0019778	0.00160000	0.0079000	0.00062543	0.03950	0.0000	50.071
PP-DDE	10	0.0061400	0.0048229	0.00230000	0.0190000	0.00152514	0.06140	0.0000	78.549
OP-DDD	10	L 0.0006000	0.0000000	L 0.00060000	L 0.0006000	0.00000000	0.00600	0.0000	0.000
PP-DDD	10	L 0.0040700	0.0016248	L 0.00100000	0.0071000	0.00051382	0.04070	0.0000	39.922
OP-DDT	10	L 0.0006000	0.0000000	L 0.00060000	L 0.0006000	0.00000000	0.00600	0.0000	0.000
PP-DDT	10	L 0.0010000	0.0000000	L 0.00100000	L 0.0010000	0.00000000	0.01000	0.0000	0.000

YEAR=1983 SITE=ST NORBERT SPECIES=SAUGER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=83 SITE=BM005 SPECIES=18									
LENGTH	17	32.0529412	3.10304642	22.4000000	36.5000000	0.75259930	544.90000	9.62890	9.681
WEIGHT	17	393.5294118	66.13822424	310.0000000	500.0000000	16.04087556	6690.00000	4374.26471	16.806
AGE	17	3.7647059	0.43723732	3.0000000	4.0000000	0.10604563	64.00000	0.19118	11.614
SEX	17	2.8235294	0.39295262	2.0000000	3.0000000	0.09530501	48.00000	0.15441	13.917
A-1248	10	L 0.0060000	0.00000000	L 0.0060000	L 0.0060000	0.00000000	0.06000	0.00000	0.000
A-1254	10	L 0.0060000	0.00000000	L 0.0060000	L 0.0060000	0.00000000	0.06000	0.00000	0.000
A-1260	10	0.0164000	0.00560159	0.0090000	0.0250000	0.00177138	0.16400	0.00003	34.156
ALDRIN	10	L 0.0002000	0.00000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.00000	0.000
CHLORDANE	10	L 0.0003000	0.00000000	L 0.0003000	L 0.0003000	0.00000000	0.00300	0.00000	0.000
DIELDRIN	10	L 0.0004000	0.00000000	L 0.0004000	L 0.0004000	0.00000000	0.00400	0.00000	0.000
ENDRIN	10	L 0.0009000	0.00000000	L 0.0009000	L 0.0009000	0.00000000	0.00900	0.00000	0.000
LINDANE	10	L 0.0002000	0.00000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.00000	0.000
METHOXYCHLOR	10	L 0.0040000	0.00000000	L 0.0040000	L 0.0040000	0.00000000	0.04000	0.00000	0.000
TOTAL-DDT	10	0.0081100	0.00275377	0.0047000	0.0131000	0.00087082	0.08110	0.00001	33.955
OP-DDE	10	0.0011400	0.00040879	0.0006000	0.0019000	0.00012927	0.01140	0.00000	35.859
PP-DDE	10	0.0042300	0.00132418	0.0024000	0.0065000	0.00041874	0.04230	0.00000	31.304
OP-DDD	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
PP-DDD	10	0.0027400	0.00105325	0.0016000	0.0047000	0.00033307	0.02740	0.00000	38.440
OP-DDT	10	L 0.0006000	0.00000000	L 0.0006000	L 0.0006000	0.00000000	0.00600	0.00000	0.000
PP-DDT	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000

APPENDIX 1 (b-2). YEAR=1978 SITE=ST NORBERT SPECIES=GOLDEYE

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SITE=BM005 SPECIES=27									
LENGTH	10	27.1100000	3.57909051	21.0000000	32.9000000	1.13180780	271.10000	12.80989	13.202
WEIGHT	10	248.0000000	80.52604824	150.0000000	400.0000000	25.46457234	2480.00000	6484.44444	32.470
AGE	10	6.1000000	1.28668394	5.0000000	8.0000000	0.40688519	61.00000	1.65556	21.093
SEX	10	2.0000000	0.47140452	1.0000000	3.0000000	0.14907120	20.00000	0.22222	23.570
A-1248	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
A-1254	10	0.4140000	0.3636040	0.0700000	1.3500000	0.11499952	4.14000	0.13225	87.841
A-1260	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
ALDRIN	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
CHLORDANE	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
DIELDRIN	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
ENDRIN	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
LINDANE	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
METHOXYCHLOR	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
TOTAL-DDT	10	0.1064000	0.09957376	0.0210000	0.3300000	0.03148799	1.06400	0.00991	93.584
OP-DDE	10	L 0.0196000	0.02597092	L 0.0010000	0.0800000	0.00821273	0.19600	0.00067	132.505
PP-DDE	10	0.0496000	0.03975257	0.0150000	0.1200000	0.01257087	0.49600	0.00158	80.146
OP-DDD	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDD	10	L 0.0364000	0.03805610	L 0.0020000	0.1300000	0.01203440	0.36400	0.00145	104.550
OP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDT	10	L 0.0030000	0.00316228	L 0.0020000	0.0120000	0.00100000	0.03000	0.00001	105.409

YEAR=1979 SITE=ST NORBERT SPECIES=GOLDEYE

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=79 SITE=BM005 SPECIES=27									
LENGTH	10	25.6600000	6.9973328	17.80000000	39.5000000	2.21275093	256.60000	48.9627	27.269
WEIGHT	10	202.0000000	142.5014620	50.00000000	440.0000000	45.06291898	2020.00000	20306.6667	70.545
AGE	10	6.7000000	2.1628171	4.00000000	10.0000000	0.68394282	67.00000	4.6778	32.281
SEX	10	1.6000000	0.8432740	1.00000000	3.0000000	0.26666667	16.00000	0.7111	52.705
A-1248	10	L 0.0100000	0.0000000	L 0.01000000	L 0.0100000	0.00000000	0.10000	0.0000	0.000
A-1254	10	0.1260000	0.0309839	0.07000000	0.1700000	0.00979796	1.26000	0.0010	24.590
A-1260	10	L 0.0100000	0.0000000	L 0.01000000	L 0.0100000	0.00000000	0.10000	0.0000	0.000
ALDRIN	10	L 0.0020000	0.0000000	L 0.00200000	L 0.0020000	0.00000000	0.02000	0.0000	0.000
CHLORDANE	10	L 0.0050000	0.0000000	L 0.00500000	L 0.0050000	0.00000000	0.05000	0.0000	0.000
DIELDRIN	10	L 0.0010000	0.0000000	L 0.00100000	L 0.0010000	0.00000000	0.01000	0.0000	0.000
ENDRIN	10	L 0.0050000	0.0000000	L 0.00500000	L 0.0050000	0.00000000	0.05000	0.0000	0.000
LINDANE	10	L 0.0010000	0.0000000	L 0.00100000	L 0.0010000	0.00000000	0.01000	0.0000	0.000
METHOXYCHLOR	10	L 0.0050000	0.0000000	L 0.00500000	L 0.0050000	0.00000000	0.05000	0.0000	0.000
TOTAL-DDT	10	0.0408000	0.0363434	0.01000000	0.1210000	0.01149280	0.40800	0.0013	89.077
OP-DDE	10	L 0.0034000	0.0051467	L 0.00100000	0.0150000	0.00162754	0.03400	0.0000	151.375
PP-DDE	10	0.0236000	0.0112862	0.01000000	0.0460000	0.00356900	0.23600	0.0001	47.823
OP-DDD	10	L 0.0020000	0.0000000	L 0.00200000	L 0.0020000	0.00000000	0.02000	0.0000	0.000
PP-DDD	10	L 0.0156000	0.0195914	L 0.00200000	0.0600000	0.00619534	0.15600	0.0004	125.586
OP-DDT	10	L 0.0020000	0.0000000	L 0.00200000	L 0.0020000	0.00000000	0.02000	0.0000	0.000
PP-DDT	10	L 0.0020000	0.0000000	L 0.00200000	L 0.0020000	0.00000000	0.02000	0.0000	0.000

APPENDIX 1 (b-2) cont'd. YEAR=1980 SITE=ST NORBERT SPECIES=GOLDEYE

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=80 SITE=BM005 SPECIES=27									
LENGTH	10	27.6600000	3.6402686	23.0000000	33.5000000	1.15115401	276.60000	13.2516	13.161
WEIGHT	10	276.0000000	112.6646943	170.0000000	480.0000000	35.62770458	2760.00000	12693.3333	40.821
AGE	10	3.9000000	0.9944289	2.0000000	5.0000000	0.31446604	39.00000	0.9889	25.498
SEX	10	2.4000000	0.5163978	2.0000000	3.0000000	0.16329932	24.00000	0.2667	21.517
A-1248	10	L 0.0100000	0.0000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.0000	0.000
A-1254	10	0.0820000	0.0297396	0.0400000	0.1300000	0.00940449	0.82000	0.0009	36.268
A-1260	10	L 0.0100000	0.0000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.0000	0.000
ALDRIN	10	L 0.0020000	0.0000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.0000	0.000
CHLORDANE	10	L 0.0050000	0.0000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.0000	0.000
DIELDRIN	10	L 0.0010000	0.0000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.0000	0.000
ENDRIN	10	L 0.0050000	0.0000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.0000	0.000
LINDANE	10	L 0.0010000	0.0000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.0000	0.000
METHOXYCHLOR	10	L 0.0050000	0.0000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.0000	0.000
TOTAL-DDT	10	0.0398000	0.0298098	0.0170000	0.1200000	0.00942668	0.39800	0.0009	74.899
OP-DDE	10	0.0084000	0.0045019	0.0020000	0.0170000	0.00142361	0.08400	0.0000	53.593
PP-DDE	10	0.0152000	0.0093785	0.0090000	0.0400000	0.00296573	0.15200	0.0001	61.700
OP-DDD	10	L 0.0020000	0.0000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.0000	0.000
PP-DDD	10	0.0162000	0.0171062	0.0060000	0.0630000	0.00540946	0.16200	0.0003	105.594
OP-DDT	10	L 0.0020000	0.0000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.0000	0.000
PP-DDT	10	L 0.0020000	0.0000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.0000	0.000

YEAR=1981 SITE=ST NORBERT SPECIES=GOLDEYE

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=81 SITE=BM005 SPECIES=27									
LENGTH	20	29.8450000	2.36876050	26.7000000	37.0000000	0.52967095	596.90000	5.61103	7.937
WEIGHT	20	320.5000000	95.50282443	200.0000000	580.0000000	21.35508075	6410.00000	9120.78947	29.798
AGE	20	5.0500000	0.88704121	4.0000000	7.0000000	0.19834844	101.00000	0.78684	17.565
SEX	20	2.6000000	0.50262469	2.0000000	3.0000000	0.11239030	52.00000	0.25263	19.332
A-1248	10	L 0.0060000	0.00000000	L 0.0060000	L 0.0060000	0.00000000	0.06000	0.00000	0.000
A-1254	10	L 0.0585000	0.08223983	L 0.0060000	0.2220000	0.02600652	0.58500	0.00676	140.581
A-1260	10	L 0.0437000	0.06176488	L 0.0060000	0.2010000	0.01953177	0.43700	0.00381	141.338
ALDRIN	10	L 0.0002000	0.00000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.00000	0.000
CHLORDANE	10	L 0.0004000	0.00000000	L 0.0004000	L 0.0004000	0.00000000	0.00400	0.00000	0.000
DIELDRIN	10	L 0.0004000	0.00000000	L 0.0004000	L 0.0004000	0.00000000	0.00400	0.00000	0.000
ENDRIN	10	L 0.0009000	0.00000000	L 0.0009000	L 0.0009000	0.00000000	0.00900	0.00000	0.000
LINDANE	10	L 0.0002000	0.00000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.00000	0.000
METHOXYCHLOR	10	L 0.0040000	0.00000000	L 0.0040000	L 0.0040000	0.00000000	0.04000	0.00000	0.000
TOTAL-DDT	10	0.3589700	0.80842448	0.0167000	2.6400000	0.25564627	3.58970	0.65355	225.207
OP-DDE	10	L 0.0154600	0.01481532	L 0.0004000	0.0458000	0.00468502	0.15460	0.00022	95.830
PP-DDE	10	L 0.0322100	0.03342865	L 0.0003000	0.0989000	0.01057107	0.32210	0.00112	103.783
OP-DDD	10	L 0.0008000	0.00000000	L 0.0008000	L 0.0008000	0.00000000	0.00800	0.00000	0.000
PP-DDD	10	L 0.0328800	0.04452442	L 0.0013000	0.1292000	0.01407986	0.32880	0.00198	135.415
OP-DDT	10	L 0.0008000	0.00000000	L 0.0008000	L 0.0008000	0.00000000	0.00800	0.00000	0.000
PP-DDT	10	L 0.2790200	0.82986005	L 0.0010000	2.6400000	0.26243111	2.79020	0.68870	297.427

APPENDIX 1 (b-2) cont'd. YEAR=1982 SITE=ST NORBERT SPECIES=GOLDEYE

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
---------- YEAR=82 SITE=BH005 SPECIES=27 ----------									
LENGTH	10	28.3700000	1.90848980	26.4000000	31.0000000	0.60351747	283.70000	3.64233	6.727
WEIGHT	10	260.0000000	53.33333333	200.0000000	340.0000000	16.86548005	2600.00000	2844.44444	20.513
AGE	10	3.4000000	0.84327404	3.0000000	5.0000000	0.26666667	34.00000	0.71111	24.802
SEX	10	2.5000000	0.52704628	2.0000000	3.0000000	0.16666667	25.00000	0.27778	21.082
A-1248	10	L 0.0060000	0.00000000	L 0.0060000	L 0.0060000	0.00000000	0.06000	0.00000	0.000
A-1254	10	L 0.0060000	0.00000000	L 0.0060000	L 0.0060000	0.00000000	0.06000	0.00000	0.000
A-1260	10	0.1347000	0.06918903	0.0600000	0.2620000	0.02187949	1.34700	0.00479	51.365
ALDRIN	10	L 0.0002000	0.00000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.00000	0.000
CHLORDANE	10	L 0.0026800	0.00261908	L 0.0003000	0.0084000	0.00082822	0.02680	0.00001	97.727
DIELDRIN	10	L 0.0004000	0.00000000	L 0.0004000	L 0.0004000	0.00000000	0.00400	0.00000	0.000
ENDRIN	10	L 0.0009000	0.00000000	L 0.0009000	L 0.0009000	0.00000000	0.00900	0.00000	0.000
LINDANE	10	L 0.0002000	0.00000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.00000	0.000
METHOXYCHLOR	10	L 0.0040000	0.00000000	L 0.0040000	L 0.0040000	0.00000000	0.04000	0.00000	0.000
TOTAL-DDT	10	0.0900800	0.04015799	0.0436000	0.1481000	0.01269907	0.90080	0.00161	44.580
OP-DDE	10	0.0152900	0.01393329	0.0031000	0.0382000	0.00440609	0.15290	0.00019	91.127
PP-DDE	10	0.0424900	0.01933031	0.0196000	0.0759000	0.00611278	0.42490	0.00037	45.494
OP-DDD	10	L 0.0008000	0.00000000	L 0.0008000	L 0.0008000	0.00000000	0.00800	0.00000	0.000
PP-DDD	10	0.0323000	0.01092123	0.0142000	0.0468000	0.00345360	0.32300	0.00012	33.812
OP-DDT	10	L 0.0008000	0.00000000	L 0.0008000	L 0.0008000	0.00000000	0.00800	0.00000	0.000
PP-DDT	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000

YEAR=1983 SITE=ST NORBERT SPECIES=GOLDEYE

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
---------- YEAR=83 SITE=BH005 SPECIES=27 ----------									
LENGTH	10	28.0500000	1.51382518	25.7000000	31.3000000	0.47871355	280.50000	2.29167	5.397
WEIGHT	10	251.0000000	33.81321241	200.0000000	300.0000000	10.69267662	2510.00000	1143.33333	13.471
AGE	10	3.7000000	0.67494856	3.0000000	5.0000000	0.21343747	37.00000	0.45556	18.242
SEX	10	2.2000000	0.42163702	2.0000000	3.0000000	0.13333333	22.00000	0.17778	19.165
A-1248	10	L 0.0060000	0.00000000	L 0.0060000	L 0.0060000	0.00000000	0.06000	0.00000	0.000
A-1254	10	L 0.0060000	0.00000000	L 0.0060000	L 0.0060000	0.00000000	0.06000	0.00000	0.000
A-1260	10	0.0470000	0.02004994	0.0190000	0.0850000	0.00634035	0.47000	0.00040	42.659
ALDRIN	10	L 0.0002000	0.00000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.00000	0.000
CHLORDANE	10	L 0.0003000	0.00000000	L 0.0003000	L 0.0003000	0.00000000	0.00300	0.00000	0.000
DIELDRIN	10	L 0.0004000	0.00000000	L 0.0004000	L 0.0004000	0.00000000	0.00400	0.00000	0.000
ENDRIN	10	L 0.0009000	0.00000000	L 0.0009000	L 0.0009000	0.00000000	0.00900	0.00000	0.000
LINDANE	10	L 0.0002000	0.00000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.00000	0.000
METHOXYCHLOR	10	L 0.0040000	0.00000000	L 0.0040000	L 0.0040000	0.00000000	0.04000	0.00000	0.000
TOTAL-DDT	10	0.0424700	0.02214468	0.0124000	0.0826000	0.00700276	0.42470	0.00049	52.142
OP-DDE	10	0.0085900	0.00443533	0.0021000	0.0148000	0.00140257	0.08590	0.00002	51.634
PP-DDE	10	0.0251300	0.01745025	0.0068000	0.0678000	0.00551825	0.25130	0.00030	69.440
OP-DDD	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
PP-DDD	10	L 0.0088500	0.00527663	L 0.0010000	0.0157000	0.00166862	0.08850	0.00003	59.623
OP-DDT	10	L 0.0008000	0.00000000	L 0.0008000	L 0.0008000	0.00000000	0.00800	0.00000	0.000
PP-DDT	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000

APPENDIX 1 (b-3). YEAR=1978 SITE=ST NORBERT SPECIES=COMMON SUCKER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SITE=BM005 SPECIES=21									
LENGTH	10	40.1400000	1.90624704	37.5000000	42.600000	0.60280824	401.40000	3.63378	4.749
WEIGHT	10	954.0000000	96.05553949	760.0000000	1080.000000	30.37542867	9540.00000	9226.66667	10.069
AGE	10	5.5000000	0.97182532	4.0000000	7.000000	0.30731815	55.00000	0.94444	17.670
SEX	10	2.0000000	0.00000000	2.0000000	2.000000	0.00000000	20.00000	0.00000	0.000
A-1248	10	L 0.0100000	0.00000000	L 0.0100000	L 0.010000	0.00000000	0.10000	0.00000	0.000
A-1254	10	L 0.1510000	0.19191723	L 0.0100000	0.660000	0.06068956	1.51000	0.03683	127.098
A-1260	10	L 0.0100000	0.00000000	L 0.0100000	0.010000	0.00000000	0.10000	0.00000	0.000
ALDRIN	10	L 0.0020000	0.00000000	L 0.0020000	L 0.002000	0.00000000	0.02000	0.00000	0.000
CHLORDANE	10	L 0.0050000	0.00000000	L 0.0050000	L 0.005000	0.00000000	0.05000	0.00000	0.000
DIELDRIN	10	L 0.0010000	0.00000000	L 0.0010000	L 0.001000	0.00000000	0.01000	0.00000	0.000
ENDRIN	10	L 0.0050000	0.00000000	L 0.0050000	L 0.005000	0.00000000	0.05000	0.00000	0.000
LINDANE	10	L 0.0010000	0.00000000	L 0.0010000	L 0.001000	0.00000000	0.01000	0.00000	0.000
METHOXYCHLOR	10	L 0.0050000	0.00000000	L 0.0050000	L 0.005000	0.00000000	0.05000	0.00000	0.000
TOTAL-DDT	10	0.0404000	0.04896302	0.0090000	0.170000	0.01548347	0.40400	0.00240	121.196
OP-DDE	10	L 0.0067000	0.00800069	L 0.0010000	0.027000	0.00253004	0.06700	0.00006	119.413
PP-DDE	10	0.0115000	0.01286900	0.0040000	0.045000	0.00406953	0.11500	0.00017	111.904
OP-DDD	10	L 0.0020000	0.00000000	L 0.0020000	L 0.002000	0.00000000	0.02000	0.00000	0.000
PP-DDD	10	0.0191000	0.02918695	0.0020000	0.098000	0.00922972	0.19100	0.00085	152.811
OP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.002000	0.00000000	0.02000	0.00000	0.000
PP-DDT	10	L 0.0049000	0.00882484	L 0.0020000	0.030000	0.00279066	0.04900	0.00008	180.099

YEAR=1979 SITE=ST NORBERT SPECIES=COMMON SUCKER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=79 SITE=BM005 SPECIES=21									
LENGTH	9	38.7444444	3.4304195	32.0000000	42.900000	1.14347316	348.70000	11.7678	8.854
WEIGHT	9	950.0000000	136.8393218	740.0000000	1200.000000	45.61310728	8550.00000	18725.0000	14.404
AGE	9	3.7777778	0.4409586	3.0000000	4.000000	0.14698618	34.00000	0.1944	11.672
SEX	9	2.4444444	0.5270463	2.0000000	3.000000	0.17568209	22.00000	0.2778	21.561
A-1248	9	L 0.0100000	0.0000000	L 0.0100000	L 0.010000	0.00000000	0.09000	0.0000	0.000
A-1254	9	0.2833333	0.3022416	0.0400000	0.960000	0.10074721	2.55000	0.0913	106.674
A-1260	9	L 0.0100000	0.0000000	L 0.0100000	L 0.010000	0.00000000	0.09000	0.0000	0.000
ALDRIN	9	L 0.0020000	0.0000000	L 0.0020000	L 0.002000	0.00000000	0.01800	0.0000	0.000
CHLORDANE	9	L 0.0050000	0.0000000	L 0.0050000	L 0.005000	0.00000000	0.04500	0.0000	0.000
DIELDRIN	9	L 0.0010000	0.0000000	L 0.0010000	L 0.001000	0.00000000	0.00900	0.0000	0.000
ENDRIN	9	L 0.0050000	0.0000000	L 0.0050000	L 0.005000	0.00000000	0.04500	0.0000	0.000
LINDANE	9	L 0.0010000	0.0000000	L 0.0010000	L 0.001000	0.00000000	0.00900	0.0000	0.000
METHOXYCHLOR	9	L 0.0050000	0.0000000	L 0.0050000	L 0.005000	0.00000000	0.04500	0.0000	0.000
TOTAL-DDT	9	0.0375556	0.0379477	0.0020000	0.120000	0.01264923	0.33800	0.0014	101.044
OP-DDE	9	L 0.0032222	0.0035629	L 0.0010000	0.010000	0.00118764	0.02900	0.0000	110.574
PP-DDE	9	0.0221111	0.0260117	0.0020000	0.080000	0.00867058	0.19900	0.0007	117.641
OP-DDD	9	L 0.0020000	0.0000000	L 0.0020000	L 0.002000	0.00000000	0.01800	0.0000	0.000
PP-DDD	9	L 0.0135556	0.0124108	L 0.0020000	0.04000	0.00413693	0.12200	0.0002	91.555
OP-DDT	9	L 0.0020000	0.0000000	L 0.0020000	L 0.002000	0.00000000	0.01800	0.0000	0.000
PP-DDT	9	L 0.0020000	0.0000000	L 0.0020000	L 0.002000	0.00000000	0.01800	0.0000	0.000

APPENDIX 1 (b-3) cont'd. YEAR=1980 SITE=ST NORBERT SPECIES=COMMON SUCKER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=80 SITE=BM005 SPECIES=21									
LENGTH	10	39.0800000	2.4983550	34.6000000	42.400000	0.79004922	390.80000	6.2418	6.393
WEIGHT	10	926.0000000	170.1110748	620.0000000	1220.000000	53.79384517	9260.00000	28937.7778	18.371
AGE	10	2.7000000	0.6749486	2.0000000	4.000000	0.21343747	27.00000	0.4556	24.998
SEX	10	2.6000000	0.5163978	2.0000000	3.000000	0.16329932	26.00000	0.2667	19.861
A-1248	10	L 0.0100000	0.0000000	L 0.0100000	L 0.010000	0.00000000	0.10000	0.0000	0.000
A-1254	10	L 0.0350000	0.0246060	L 0.0100000	0.070000	0.00778175	0.35000	0.0006	70.309
A-1260	10	L 0.0100000	0.0000000	L 0.0100000	L 0.010000	0.00000000	0.10000	0.0000	0.000
ALDRIN	10	L 0.0020000	0.0000000	L 0.0020000	L 0.002000	0.00000000	0.02000	0.0000	0.000
CHLORDANE	10	L 0.0050000	0.0000000	L 0.0050000	L 0.005000	0.00000000	0.05000	0.0000	0.000
DIELDRIN	10	L 0.0010000	0.0000000	L 0.0010000	L 0.001000	0.00000000	0.01000	0.0000	0.000
ENDRIN	10	L 0.0050000	0.0000000	L 0.0050000	L 0.005000	0.00000000	0.05000	0.0000	0.000
LINDANE	10	L 0.0010000	0.0000000	L 0.0010000	L 0.001000	0.00000000	0.01000	0.0000	0.000
METHOXYCHLOR	10	L 0.0050000	0.0000000	L 0.0050000	L 0.005000	0.00000000	0.05000	0.0000	0.000
TOTAL-DDT	10	L 0.0102000	0.0084037	L 0.0010000	0.026000	0.00265748	0.10200	0.0001	82.389
OP-DDE	10	L 0.0012000	0.0004216	L 0.0010000	0.002000	0.00013333	0.01200	0.0000	35.136
PP-DDE	10	L 0.0045000	0.0026352	L 0.0010000	0.009000	0.00083333	0.04500	0.0000	58.561
OP-DDD	10	L 0.0020000	0.0000000	L 0.0020000	L 0.002000	0.00000000	0.02000	0.0000	0.000
PP-DDD	10	L 0.0071000	0.0055066	L 0.0020000	0.016000	0.00174133	0.07100	0.0000	77.557
OP-DDT	10	L 0.0020000	0.0000000	L 0.0020000	L 0.002000	0.00000000	0.02000	0.0000	0.000
PP-DDT	10	L 0.0020000	0.0000000	L 0.0020000	L 0.002000	0.00000000	0.02000	0.0000	0.000

YEAR=1981 SITE=ST NORBERT SPECIES=COMMON SUCKER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=81 SITE=BM005 SPECIES=21									
LENGTH	10	37.7300000	1.34993827	34.2000000	39.000000	0.42688796	377.30000	1.82233	3.578
WEIGHT	10	847.0000000	90.43720965	740.0000000	1040.000000	28.59875677	8470.00000	8178.88889	10.677
AGE	10	3.1000000	0.73786479	2.0000000	4.000000	0.23333333	31.00000	0.54444	23.802
SEX	10	2.2000000	0.42163702	2.0000000	3.000000	0.13333333	22.00000	0.17778	19.165
A-1248	10	L 0.0060000	0.00000000	L 0.0060000	L 0.006000	0.00000000	0.06000	0.00000	0.000
A-1254	10	L 0.0060000	0.00000000	L 0.0060000	L 0.006000	0.00000000	0.06000	0.00000	0.000
A-1260	10	L 0.0514000	0.04566837	L 0.0060000	0.140000	0.01444161	0.51400	0.00209	88.849
ALDRIN	10	L 0.0002000	0.00000000	L 0.0002000	L 0.000200	0.00000000	0.00200	0.00000	0.000
CHLORDANE	10	L 0.0122000	0.01513833	L 0.0004000	0.049400	0.00478716	0.12200	0.00023	124.085
DIELDRIN	10	L 0.0004000	0.00000000	L 0.0004000	L 0.000400	0.00000000	0.00400	0.00000	0.000
ENDRIN	10	L 0.0009000	0.00000000	L 0.0009000	L 0.000900	0.00000000	0.00900	0.00000	0.000
LINDANE	10	L 0.0002000	0.00000000	L 0.0002000	L 0.000200	0.00000000	0.00200	0.00000	0.000
METHOXYCHLOR	10	L 0.0040000	0.00000000	L 0.0040000	L 0.004000	0.00000000	0.04000	0.00000	0.000
TOTAL-DDT	10	0.0595000	0.03745812	0.0334000	0.156100	0.01184530	0.59500	0.00140	62.955
OP-DDE	10	L 0.0119100	0.01084081	L 0.0004000	0.039700	0.00342817	0.11910	0.00012	91.023
PP-DDE	10	0.0116800	0.00929777	0.0028000	0.034000	0.00294021	0.11680	0.00009	79.604
OP-DDD	10	L 0.0008000	0.00000000	L 0.0008000	L 0.000800	0.00000000	0.00800	0.00000	0.000
PP-DDD	10	0.0219500	0.01679386	0.0061000	0.057500	0.00531069	0.21950	0.00028	76.510
OP-DDT	10	L 0.0008000	0.00000000	L 0.0008000	L 0.000800	0.00000000	0.00800	0.00000	0.000
PP-DDT	10	L 0.0146500	0.01018815	L 0.0010000	0.030100	0.00322177	0.14650	0.00010	69.544

APPENDIX 1 (b-3) cont'd. YEAR=1982 SITE=ST NORBERT SPECIES=COMMON SUCKER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
----------			YEAR=82	SITE=BM005	SPECIES=21	----------			
LENGTH	10	36.8300000	1.8903556	34.6000000	40.0000000	0.59778294	368.30000	3.5734	5.133
WEIGHT	10	737.0000000	128.2402260	600.0000000	980.0000000	40.55312017	7370.00000	16445.5556	17.400
AGE	10	2.2000000	1.2292726	1.0000000	5.0000000	0.38873013	22.00000	1.5111	55.876
SEX	10	2.5000000	0.5270463	2.0000000	3.0000000	0.16666667	25.00000	0.2778	21.082
A-1248	10	L 0.0060000	0.0000000	L 0.0060000	L 0.0060000	0.00000000	0.06000	0.0000	0.000
A-1254	10	L 0.0060000	0.0000000	L 0.0060000	L 0.0060000	0.00000000	0.06000	0.0000	0.000
A-1260	10	0.0213000	0.0113338	0.0090000	0.0400000	0.00358407	0.21300	0.0001	53.210
ALDRIN	10	L 0.0002000	0.0000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.0000	0.000
CHLORDANE	10	L 0.0007700	0.0010133	L 0.0003000	0.0031000	0.00032043	0.00770	0.0000	131.597
DIELDRIN	10	L 0.0004000	0.0000000	L 0.0004000	L 0.0004000	0.00000000	0.00400	0.0000	0.000
ENDRIN	10	L 0.0009000	0.0000000	L 0.0009000	L 0.0009000	0.00000000	0.00900	0.0000	0.000
LINDANE	10	L 0.0002000	0.0000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.0000	0.000
METHOXYCHLOR	10	L 0.0040000	0.0000000	L 0.0040000	L 0.0040000	0.00000000	0.04000	0.0000	0.000
TOTAL-DDT	10	0.0191100	0.0102584	0.0080000	0.0374000	0.00324398	0.19110	0.0001	53.681
OP-DDE	10	0.0043500	0.0033387	0.0019000	0.0114000	0.00105580	0.04350	0.0000	76.753
PP-DDE	10	0.0066000	0.0032489	0.0026000	0.0132000	0.00102740	0.06600	0.0000	49.226
OP-DDD	10	L 0.0008000	0.0000000	L 0.0008000	L 0.0008000	0.00000000	0.00800	0.0000	0.000
PP-DDD	10	0.0081600	0.0045780	0.0023000	0.0153000	0.00144770	0.08160	0.0000	56.103
OP-DDT	10	L 0.0008000	0.0000000	L 0.0008000	L 0.0008000	0.00000000	0.00800	0.0000	0.000
PP-DDT	10	L 0.0010000	0.0000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.0000	0.000

APPENDIX 1 (c-1).

YEAR=1978 SITE=SELKIRK SPECIES=SAUGER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SITE=BM006 SPECIES=18									
LENGTH	10	26.2000000	3.23350515	22.0000000	31.1000000	1.02252411	262.00000	10.45556	12.342
WEIGHT	10	189.0000000	65.05553183	100.0000000	310.0000000	20.57236550	1890.00000	4232.22222	34.421
AGE	10	2.6000000	0.51639778	2.0000000	3.0000000	0.16329932	26.00000	0.26667	19.861
SEX	10	2.0000000	0.00000000	2.0000000	2.0000000	0.00000000	20.00000	0.00000	0.000
A-1248	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
A-1254	10	0.0780000	0.02740641	0.0300000	0.1300000	0.00866667	0.78000	0.00075	35.136
A-1260	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
ALDRIN	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
CHLORDANE	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
DIELDRIN	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
ENDRIN	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
LINDANE	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
METHOXYCHLOR	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
TOTAL-DDT	10	0.0151000	0.00638488	0.0070000	0.0290000	0.00201908	0.15100	0.00004	42.284
OP-DDE	10	L 0.0028000	0.00131656	L 0.0010000	0.0050000	0.00041633	0.02800	0.00000	47.020
PP-DDE	10	0.0059000	0.00226279	0.0030000	0.0100000	0.00072188	0.05900	0.00001	38.691
OP-DDD	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDD	10	0.0065000	0.00299073	0.0030000	0.0140000	0.00094575	0.06500	0.00001	46.011
OP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000

YEAR=1979 SITE=SELKIRK SPECIES=SAUGER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=79 SITE=BM006 SPECIES=18									
LENGTH	10	27.5700000	2.25341716	24.3000000	30.7000000	0.71259307	275.70000	5.07789	8.173
WEIGHT	10	197.0000000	46.43992535	130.0000000	260.0000000	14.68559385	1970.00000	2156.66667	23.574
AGE	10	4.1000000	0.56764621	3.0000000	5.0000000	0.17950549	41.00000	0.32222	13.845
SEX	10	2.3000000	0.48304589	2.0000000	3.0000000	0.15275252	23.00000	0.23333	21.002
A-1248	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
A-1254	10	0.0650000	0.02368778	0.0200000	0.1000000	0.00749074	0.65000	0.00056	36.443
A-1260	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
ALDRIN	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
CHLORDANE	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
DIELDRIN	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
ENDRIN	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
LINDANE	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
METHOXYCHLOR	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
TOTAL-DDT	10	0.0147000	0.01016585	0.0060000	0.0360000	0.00321472	0.14700	0.00010	69.155
OP-DDE	10	L 0.0021000	0.00144914	L 0.0010000	0.0050000	0.00045826	0.02100	0.00000	69.007
PP-DDE	10	0.0060000	0.00282843	0.0030000	0.0100000	0.00089443	0.06000	0.00001	47.140
OP-DDD	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
PP-DDD	10	0.0060000	0.00368179	0.0020000	0.0110000	0.00116428	0.06000	0.00001	61.363
OP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDT	10	L 0.0028000	0.00252982	L 0.0020000	0.0100000	0.00080000	0.02800	0.00001	90.351

APPENDIX 1 (c-1) cont'd. YEAR=1980 SITE=SELKIRK SPECIES=SAUGER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=80 SITE=BM006 SPECIES=18									
LENGTH	20	29.0650000	2.46859751	25.0000000	33.5000000	0.55199518	581.30000	6.09397	8.493
WEIGHT	20	250.0000000	60.95727581	150.0000000	360.0000000	13.63046124	5000.00000	3715.78947	24.383
AGE	20	4.4500000	0.88704121	3.0000000	6.0000000	0.19834844	89.00000	0.78684	19.934
SEX	20	2.3500000	0.48936048	2.0000000	3.0000000	0.10942433	47.00000	0.23947	20.824
A-1248	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
A-1254	10	0.0490000	0.03107339	0.0200000	0.1200000	0.00982627	0.49000	0.00097	63.415
A-1260	10	L 0.0100000	0.00000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.00000	0.000
ALDRIN	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
CHLORDANE	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
DIELDRIN	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
ENDRIN	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
LINDANE	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000
METHOXYCHLOR	10	L 0.0050000	0.00000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.00000	0.000
TOTAL-DDT	10	0.0203000	0.01141198	0.0100000	0.0490000	0.00360879	0.20300	0.00013	56.217
OP-DDE	10	0.0045000	0.00295334	0.0020000	0.0120000	0.00093393	0.04500	0.00001	65.630
PP-DDE	10	0.0083000	0.00503433	0.0040000	0.0210000	0.00159199	0.08300	0.00003	60.655
OP-DDD	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDD	10	0.0075000	0.00350397	0.0040000	0.0160000	0.00110805	0.07500	0.00001	46.720
OP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000
PP-DDT	10	L 0.0020000	0.00000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.00000	0.000

YEAR=1981 SITE=SELKIRK SPECIES=SAUGER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=81 SITE=BM006 SPECIES=18									
LENGTH	20	29.3300000	6.0843284	18.40000000	38.5000000	1.36049720	586.60000	37.0191	20.744
WEIGHT	20	300.5000000	182.8279316	50.00000000	670.0000000	40.85156836	6010.00000	33426.0526	60.841
AGE	20	4.8000000	2.3753116	1.00000000	9.0000000	0.53113582	96.00000	5.6421	49.486
SEX	20	2.2000000	0.5231484	1.00000000	3.0000000	0.11697953	44.00000	0.2737	23.779
A-1248	10	L 0.0060000	0.0000000	L 0.00600000	L 0.0060000	0.00000000	0.06000	0.0000	0.000
A-1254	10	L 0.0170000	0.0100000	L 0.00600000	0.0300000	0.00316228	0.17000	0.0001	58.824
A-1260	10	L 0.0275000	0.0471552	L 0.00600000	0.1570000	0.01491178	0.27500	0.0022	171.473
ALDRIN	10	L 0.0002000	0.0000000	L 0.00020000	L 0.0002000	0.00000000	0.00200	0.0000	0.000
CHLORDANE	10	L 0.0007100	0.0009803	L 0.00040000	0.0035000	0.00031000	0.00710	0.0000	138.071
DIELDRIN	10	L 0.0004000	0.0000000	L 0.00040000	L 0.0004000	0.00000000	0.00400	0.0000	0.000
ENDRIN	10	L 0.0009000	0.0000000	L 0.00090000	L 0.0009000	0.00000000	0.00900	0.0000	0.000
LINDANE	10	L 0.0002000	0.0000000	L 0.00020000	L 0.0002000	0.00000000	0.00200	0.0000	0.000
METHOXYCHLOR	10	L 0.0040000	0.0000000	L 0.00400000	L 0.0040000	0.00000000	0.04000	0.0000	0.000
TOTAL-DDT	10	0.0132800	0.0121208	0.00580000	0.0467000	0.00383292	0.13280	0.0001	91.271
OP-DDE	10	0.0031500	0.0040498	0.00070000	0.0145000	0.00128065	0.03150	0.0000	128.564
PP-DDE	10	0.0055300	0.0055710	0.00260000	0.0208000	0.00176169	0.05530	0.0000	100.741
OP-DDD	10	L 0.0008000	0.0000000	L 0.00080000	L 0.0008000	0.00000000	0.00800	0.0000	0.000
PP-DDD	10	0.0046000	0.0026700	0.00250000	0.0114000	0.00084433	0.04600	0.0000	58.043
OP-DDT	10	L 0.0008000	0.0000000	L 0.00080000	L 0.0008000	0.00000000	0.00800	0.0000	0.000
PP-DDT	10	L 0.0010000	0.0000000	L 0.00100000	L 0.0010000	0.00000000	0.01000	0.0000	0.000

APPENDIX 1 (c-1) cont'd. YEAR=1982 SITE=SELKIRK SPECIES=SAUGER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
---------- YEAR=82 SITE=BM006 SPECIES=18 ----------									
LENGTH	20	26.3700000	3.0520226	22.5000000	36.2000000	0.68245301	527.40000	9.3148	11.574
WEIGHT	20	200.0000000	101.1512677	100.0000000	580.0000000	22.61811105	4000.00000	10231.5789	50.576
AGE	18	3.2222222	0.8084521	2.0000000	6.0000000	0.19055399	58.00000	0.6536	25.090
SEX	20	2.3500000	0.4893605	2.0000000	3.0000000	0.10942433	47.00000	0.2395	20.824
A-1248	10	L 0.0060000	0.0000000	L 0.0060000	L 0.0060000	0.00000000	0.06000	0.0000	0.000
A-1254	10	L 0.0060000	0.0000000	L 0.0060000	L 0.0060000	0.00000000	0.06000	0.0000	0.000
A-1260	10	L 0.0168000	0.0137340	L 0.0060000	0.0510000	0.00434307	0.16800	0.0002	81.750
ALDRIN	10	L 0.0002000	0.0000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.0000	0.000
CHLORDANE	10	L 0.0006200	0.0003293	L 0.0003000	0.0012000	0.00010414	0.00620	0.0000	53.114
DIELDRIN	10	L 0.0004000	0.0000000	L 0.0004000	L 0.0004000	0.00000000	0.00400	0.0000	0.000
ENDRIN	10	L 0.0009000	0.0000000	L 0.0009000	L 0.0009000	0.00000000	0.00900	0.0000	0.000
LINDANE	10	L 0.0002000	0.0000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.0000	0.000
METHOXYCHLOR	10	L 0.0040000	0.0000000	L 0.0040000	L 0.0040000	0.00000000	0.04000	0.0000	0.000
TOTAL-DDT	10	0.0081600	0.0032222	0.0015000	0.0125000	0.00101895	0.08160	0.0000	39.488
OP-DDE	10	L 0.0008200	0.0006828	L 0.0004000	0.0020000	0.00021592	0.00820	0.0000	83.269
PP-DDE	10	0.0033200	0.0007899	0.0015000	0.0044000	0.00024980	0.03320	0.0000	23.793
OP-DDD	10	L 0.0008000	0.0000000	L 0.0008000	L 0.0008000	0.00000000	0.00800	0.0000	0.000
PP-DDD	10	L 0.0044000	0.0016180	L 0.0010000	0.0068000	0.00051164	0.04400	0.0000	36.772
OP-DDT	10	L 0.0008000	0.0000000	L 0.0008000	L 0.0008000	0.00000000	0.00800	0.0000	0.000
PP-DDT	10	L 0.0010000	0.0000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.0000	0.000

YEAR=1983 SITE=SELKIRK SPECIES=SAUGER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
---------- YEAR=83 SITE=BM006 SPECIES=18 ----------									
LENGTH	18	31.0111111	2.50526244	26.3000000	35.2000000	0.59049602	558.20000	6.27634	8.079
WEIGHT	18	341.6666667	80.31189202	180.0000000	480.0000000	18.92969449	6150.00000	6450.00000	23.506
AGE	16	4.0000000	0.36514837	3.0000000	5.0000000	0.09128709	64.00000	0.13333	9.129
SEX	18	2.6666667	0.48507125	2.0000000	3.0000000	0.11433239	48.00000	0.23529	18.190
A-1248	10	L 0.0060000	0.00000000	L 0.0060000	L 0.0060000	0.00000000	0.06000	0.00000	0.000
A-1254	10	L 0.0060000	0.00000000	L 0.0060000	L 0.0060000	0.00000000	0.06000	0.00000	0.000
A-1260	10	0.0317000	0.01257908	0.0150000	0.0530000	0.00397786	0.31700	0.00016	39.682
ALDRIN	10	L 0.0002000	0.00000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.00000	0.000
CHLORDANE	10	L 0.0003000	0.00000000	L 0.0003000	L 0.0003000	0.00000000	0.00300	0.00000	0.000
DIELDRIN	10	L 0.0004000	0.00000000	L 0.0004000	L 0.0004000	0.00000000	0.00400	0.00000	0.000
ENDRIN	10	L 0.0009000	0.00000000	L 0.0009000	L 0.0009000	0.00000000	0.00900	0.00000	0.000
LINDANE	10	L 0.0002000	0.00000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.00000	0.000
METHOXYCHLOR	10	L 0.0040000	0.00000000	L 0.0040000	L 0.0040000	0.00000000	0.04000	0.00000	0.000
TOTAL-DDT	10	0.0112900	0.00464003	0.0049000	0.0198000	0.00146731	0.11290	0.00002	41.099
OP-DDE	10	L 0.0015000	0.00062361	L 0.0004000	0.0024000	0.00019720	0.01500	0.00000	41.574
PP-DDE	10	0.0122000	0.02079995	0.0016000	0.0710000	0.00657752	0.12200	0.00043	170.491
OP-DDD	10	L 0.0008000	0.00000000	L 0.0008000	L 0.0008000	0.00000000	0.00800	0.00000	0.000
PP-DDD	10	0.0040200	0.00185341	0.0018000	0.0084000	0.00058610	0.04020	0.00000	46.105
OP-DDT	10	L 0.0008000	0.00000000	L 0.0008000	L 0.0008000	0.00000000	0.00800	0.00000	0.000
PP-DDT	10	L 0.0010000	0.00000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.00000	0.000

APPENDIX 1 (c-2). YEAR=1978 SITE=SELKIRK SPECIES=COMMON SUCKER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
---------- SITE=BM006 SPECIES=21 ----------									
LENGTH	10	41.120000	2.3780478	37.2000000	44.500000	0.75200473	411.2000	5.6551	5.783
WEIGHT	10	1110.500000	196.9835018	740.0000000	1370.000000	62.29165273	11105.0000	38802.5000	17.738
AGE	10	5.200000	0.4216370	5.0000000	6.000000	0.13333333	52.0000	0.1778	8.108
SEX	10	2.000000	0.0000000	2.0000000	2.000000	0.00000000	20.0000	0.0000	0.000
A-1248	10	L 0.010000	0.0000000	L 0.0100000	L 0.010000	0.00000000	0.1000	0.0000	0.000
A-1254	10	0.070000	0.0671648	0.0200000	0.240000	0.02123938	0.7000	0.0045	95.950
A-1260	10	L 0.010000	0.0000000	L 0.0100000	L 0.010000	0.00000000	0.1000	0.0000	0.000
ALDRIN	10	L 0.002000	0.0000000	L 0.0020000	L 0.002000	0.00000000	0.0200	0.0000	0.000
CHLORDANE	10	L 0.005000	0.0000000	L 0.0050000	L 0.005000	0.00000000	0.0500	0.0000	0.000
DIELDRIN	10	L 0.001000	0.0000000	L 0.0010000	L 0.001000	0.00000000	0.0100	0.0000	0.000
ENDRIN	10	L 0.005000	0.0000000	L 0.0050000	L 0.005000	0.00000000	0.0500	0.0000	0.000
LINDANE	10	L 0.001000	0.0000000	L 0.0010000	L 0.001000	0.00000000	0.0100	0.0000	0.000
METHOXYCHLOR	10	L 0.005000	0.0000000	L 0.0050000	L 0.005000	0.00000000	0.0500	0.0000	0.000
TOTAL-DDT	10	0.019500	0.0114139	0.0050000	0.045000	0.00360940	0.1950	0.0001	58.533
OP-DDE	10	0.003700	0.0013375	0.0020000	0.006000	0.00042295	0.3370	0.0000	36.148
PP-DDE	10	0.005300	0.0029078	0.0010000	0.010000	0.00091954	0.0530	0.0000	54.865
OP-DDD	10	L 0.002000	0.0000000	L 0.0020000	L 0.002000	0.00000000	0.0200	0.0000	0.000
PP-DDD	10	0.009900	0.0078521	0.0020000	0.030000	0.00248305	0.0990	0.0001	79.314
OP-DDT	10	L 0.002000	0.0000000	L 0.0020000	L 0.002000	0.00000000	0.0200	0.0000	0.000
PP-DDT	10	L 0.002400	0.0012649	L 0.0020000	0.006000	0.00040000	0.0240	0.0000	52.705

YEAR=1979 SITE=SELKIRK SPECIES=COMMON SUCKER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
---------- YEAR=79 SITE=BM006 SPECIES=21 ----------									
LENGTH	10	45.860000	7.7839150	38.7000000	57.800000	2.4614901	458.6000	60.589	16.973
WEIGHT	10	1165.000000	342.8394506	680.0000000	1710.000000	108.4153536	11650.0000	117538.889	29.428
AGE	10	3.900000	1.1972190	3.0000000	6.000000	0.3785939	39.0000	1.433	30.698
SEX	10	2.800000	0.4216370	2.0000000	3.000000	0.1333333	28.0000	0.178	15.058
A-1248	10	L 0.010000	0.0000000	L 0.0100000	L 0.010000	0.0000000	0.1000	0.000	0.000
A-1254	10	0.088000	0.0352136	0.0500000	0.140000	0.0111355	0.8800	0.001	40.015
A-1260	10	L 0.010000	0.0000000	L 0.0100000	L 0.010000	0.0000000	0.1000	0.000	0.000
ALDRIN	10	L 0.002000	0.0000000	L 0.0020000	L 0.002000	0.0000000	0.0200	0.000	0.000
CHLORDANE	10	L 0.005000	0.0000000	L 0.0050000	L 0.005000	0.0000000	0.0500	0.000	0.000
DIELDRIN	10	L 0.001000	0.0000000	L 0.0010000	L 0.001000	0.0000000	0.0100	0.000	0.000
ENDRIN	10	L 0.005000	0.0000000	L 0.0050000	L 0.005000	0.0000000	0.0500	0.000	0.000
LINDANE	10	L 0.001000	0.0000000	L 0.0010000	L 0.001000	0.0000000	0.0100	0.000	0.000
METHOXYCHLOR	10	L 0.005000	0.0000000	L 0.0050000	L 0.005000	0.0000000	0.0500	0.000	0.000
TOTAL-DDT	10	L 0.020600	0.0279531	L 0.0010000	0.087000	0.0088396	0.2060	0.001	135.695
OP-DDE	10	L 0.004000	0.0039158	L 0.0010000	0.014000	0.0012383	0.0400	0.000	97.895
PP-DDE	10	L 0.008000	0.0077028	L 0.0010000	0.024000	0.0024358	0.0800	0.000	96.285
OP-DDD	10	L 0.001000	0.0000000	L 0.0010000	L 0.001000	0.0000000	0.0100	0.000	0.000
PP-DDD	10	L 0.009600	0.0153203	L 0.0020000	0.049000	0.0048447	0.0960	0.000	159.586
OP-DDT	10	L 0.002000	0.0000000	L 0.0020000	L 0.002000	0.0000000	0.0200	0.000	0.000
PP-DDT	10	L 0.002600	0.0018974	L 0.0020000	0.008000	0.0006000	0.0260	0.000	72.976

APPENDIX 1 (c-2) cont'd.

YEAR=1980 SITE=SELKIRK SPECIES=COMMON SUCKER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=80 SITE=BM006 SPECIES=21									
LENGTH	10	41.040000	2.8226071	37.2000000	45.800000	0.89258675	410.4000	7.9671	6.878
WEIGHT	10	1102.000000	244.2585151	760.0000000	1550.000000	77.24132458	11020.0000	59662.2222	22.165
AGE	10	4.200000	1.3984118	2.0000000	6.000000	0.44221664	42.0000	1.9556	33.296
SEX	10	2.400000	0.5163978	2.0000000	3.000000	0.16329932	24.0000	0.2667	21.517
A-1248	10	L 0.010000	0.0000000	L 0.0100000	L 0.010000	0.00000000	0.1000	0.0000	0.000
A-1254	10	L 0.034000	0.0171270	L 0.0100000	0.060000	0.00541603	0.3400	0.0003	50.373
A-1260	10	L 0.010000	0.0000000	L 0.0100000	L 0.010000	0.00000000	0.1000	0.0000	0.000
ALDRIN	10	L 0.002000	0.0000000	L 0.0020000	L 0.002000	0.00000000	0.0200	0.0000	0.000
CHLORDANE	10	L 0.005000	0.0000000	L 0.0050000	L 0.005000	0.00000000	0.0500	0.0000	0.000
DIELDRIN	10	L 0.001000	0.0000000	L 0.0010000	L 0.001000	0.00000000	0.0100	0.0000	0.000
ENDRIN	10	L 0.005000	0.0000000	L 0.0050000	L 0.005000	0.00000000	0.0500	0.0000	0.000
LINDANE	10	L 0.001000	0.0000000	L 0.0010000	L 0.001000	0.00000000	0.0100	0.0000	0.000
METHOXYCHLOR	10	L 0.005000	0.0000000	L 0.0050000	L 0.005000	0.00000000	0.0500	0.0000	0.000
TOTAL-DDT	10	0.014400	0.0069154	0.0050000	0.025000	0.00218683	0.1440	0.0000	48.023
OP-DDE	10	L 0.001900	0.0019120	L 0.0010000	0.006000	0.00060461	0.0190	0.0000	100.629
PP-DDE	10	0.005700	0.0024518	0.0020000	0.008000	0.00077531	0.0570	0.0000	43.013
OP-DDD	10	L 0.002000	0.0000000	L 0.0020000	L 0.002000	0.00000000	0.0200	0.0000	0.000
PP-DDD	10	0.007600	0.0031340	0.0030000	0.012000	0.00099107	0.0760	0.0000	41.237
OP-DDT	10	L 0.002000	0.0000000	L 0.0020000	L 0.002000	0.00000000	0.0200	0.0000	0.000
PP-DDT	10	L 0.002000	0.0000000	L 0.0020000	L 0.002000	0.00000000	0.0200	0.0000	0.000

YEAR=1981 SITE=SELKIRK SPECIES=COMMON SUCKER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=81 SITE=BM006 SPECIES=21									
LENGTH	10	41.550000	2.2984294	39.4000000	45.700000	0.72682720	415.5000	5.2828	5.532
WEIGHT	10	1128.000000	194.4107907	880.0000000	1510.000000	61.47809004	11280.0000	37795.5556	17.235
AGE	10	3.800000	2.0439613	2.0000000	8.000000	0.64635731	38.0000	4.1778	53.788
SEX	10	2.500000	0.5270463	2.0000000	3.000000	0.16666667	25.0000	0.2778	21.082
A-1248	10	L 0.006000	0.0000000	L 0.0060000	L 0.006000	0.00000000	0.0600	0.0000	0.000
A-1254	10	L 0.006000	0.0000000	L 0.0060000	L 0.006000	0.00000000	0.0600	0.0000	0.000
A-1260	10	0.044000	0.0218429	0.0190000	0.084000	0.00690732	0.4400	0.0005	49.643
ALDRIN	10	L 0.000200	0.0000000	L 0.0002000	L 0.000200	0.00000000	0.0020	0.0000	0.000
CHLORDANE	10	L 0.001290	0.0014985	L 0.0004000	0.004700	0.00047386	0.0129	0.0000	116.161
DIELDRIN	10	L 0.000400	0.0000000	L 0.0004000	L 0.000400	0.00000000	0.0040	0.0000	0.000
ENDRIN	10	L 0.000900	0.0000000	L 0.0009000	L 0.000900	0.00000000	0.0090	0.0000	0.000
LINDANE	10	L 0.000200	0.0000000	L 0.0002000	L 0.000200	0.00000000	0.0020	0.0000	0.000
METHOXYCHLOR	10	L 0.004000	0.0000000	L 0.0040000	L 0.004000	0.00000000	0.0400	0.0000	0.000
TOTAL-DDT	10	0.024000	0.0105523	0.0116000	0.046000	0.00333693	0.2400	0.0001	43.968
OP-DDE	10	0.007310	0.0033144	0.0033000	0.013700	0.00104811	0.0731	0.0000	45.341
PP-DDE	10	0.007110	0.0028885	0.0032000	0.011400	0.00091341	0.0711	0.0000	40.625
OP-DDD	10	L 0.000800	0.0000000	L 0.0008000	L 0.000800	0.00000000	0.0080	0.0000	0.000
PP-DDD	10	0.009580	0.0048844	0.0046000	0.020900	0.00154458	0.0958	0.0000	50.985
OP-DDT	10	L 0.000800	0.0000000	L 0.0008000	L 0.000800	0.00000000	0.0080	0.0000	0.000
PP-DDT	10	L 0.001000	0.0000000	L 0.0010000	L 0.001000	0.00000000	0.0100	0.0000	0.000

APPENDIX 1 (c-2) cont'd. YEAR=1982 SITE=SELKIRK SPECIES=COMMON SUCKER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=82 SITE=BM006 SPECIES=21									
LENGTH	10	39.000000	3.5465163	33.5000000	47.400000	1.12150692	390.0000	12.5778	9.094
WEIGHT	10	1049.000000	287.6127798	750.0000000	1800.000000	90.95114684	10490.0000	82721.1111	27.418
AGE	10	3.300000	1.1595018	2.0000000	6.000000	0.36666667	33.0000	1.3444	35.136
SEX	10	2.400000	0.5163978	2.0000000	3.000000	0.16329932	24.0000	0.2667	21.517
A-1248	10	L 0.006000	0.0000000	L 0.0060000	L 0.006000	0.00000000	0.0600	0.0000	0.000
A-1254	10	L 0.006000	0.0000000	L 0.0060000	L 0.006000	0.00000000	0.0600	0.0000	0.000
A-1260	10	0.051700	0.0258889	0.0100000	0.098000	0.00818678	0.5170	0.0007	50.075
ALDRIN	10	L 0.000200	0.0000000	L 0.0002000	L 0.000200	0.00000000	0.0020	0.0000	0.000
CHLORDANE	10	0.002450	0.0009490	0.0007000	0.003800	0.00030009	0.0245	0.0000	38.734
DIELDRIN	10	L 0.000400	0.0000000	L 0.0004000	L 0.000400	0.00000000	0.0040	0.0000	0.000
ENDRIN	10	L 0.000900	0.0000000	L 0.0009000	L 0.000900	0.00000000	0.0090	0.0000	0.000
LINDANE	10	L 0.000200	0.0000000	L 0.0002000	L 0.000200	0.00000000	0.0020	0.0000	0.000
METHOXYCHLOR	10	L 0.004000	0.0000000	L 0.0040000	L 0.004000	0.00000000	0.0400	0.0000	0.000
TOTAL-DDT	10	L 0.027960	0.0127428	L 0.0106000	0.052300	0.00402962	0.2796	0.0002	45.575
OP-DDE	10	L 0.003360	0.0018928	L 0.0004000	0.005900	0.00059855	0.0336	0.0000	56.333
PP-DDE	10	0.009400	0.0044796	0.0031000	0.017400	0.00141657	0.0940	0.0000	47.655
OP-DDD	10	L 0.000800	0.0000000	L 0.0008000	L 0.000800	0.00000000	0.0080	0.0000	0.000
PP-DDD	10	0.015240	0.0071576	0.0064000	0.029800	0.00226344	0.1524	0.0001	46.966
OP-DDT	10	L 0.000800	0.0000000	L 0.0008000	L 0.000800	0.00000000	0.0080	0.0000	0.000
PP-DDT	10	L 0.001000	0.0000000	L 0.0010000	L 0.001000	0.00000000	0.0100	0.0000	0.000

YEAR=1983 SITE=SELKIRK SPECIES=COMMON SUCKER

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=83 SITE=BM006 SPECIES=21									
LENGTH	10	42.910000	1.8357257	39.600000	45.300000	0.58050744	429.1000	3.3699	4.278
WEIGHT	10	1342.000000	167.6504300	1020.000000	1620.000000	53.01572094	13420.0000	28106.6667	12.493
AGE	10	4.500000	0.5270463	4.000000	5.000000	0.16666667	45.0000	0.2778	11.712
SEX	10	2.700000	0.4830459	2.000000	3.000000	0.15275252	27.0000	0.2333	17.891
A-1248	10	L 0.006000	0.0000000	L 0.006000	L 0.006000	0.00000000	0.0600	0.0000	0.000
A-1254	10	L 0.006000	0.0000000	L 0.006000	L 0.006000	0.00000000	0.0600	0.0000	0.000
A-1260	10	0.046000	0.0151731	0.018000	0.070000	0.00479815	0.4600	0.0002	32.985
ALDRIN	10	L 0.000200	0.0000000	L 0.000200	L 0.000200	0.00000000	0.0020	0.0000	0.000
CHLORDANE	10	L 0.000300	0.0000000	L 0.000300	L 0.000300	0.00000000	0.0030	0.0000	0.000
DIELDRIN	10	L 0.000400	0.0000000	L 0.000400	L 0.000400	0.00000000	0.0040	0.0000	0.000
ENDRIN	10	L 0.000900	0.0000000	L 0.000900	L 0.000900	0.00000000	0.0090	0.0000	0.000
LINDANE	10	L 0.000200	0.0000000	L 0.000200	L 0.000200	0.00000000	0.0020	0.0000	0.000
METHOXYCHLOR	10	L 0.004000	0.0000000	L 0.004000	L 0.004000	0.00000000	0.0400	0.0000	0.000
TOTAL-DDT	10	0.024540	0.0084121	0.010700	0.038600	0.00266013	0.2454	0.0001	34.279
OP-DDE	10	0.004010	0.0017355	0.001200	0.007000	0.00054883	0.0401	0.0000	43.280
PP-DDE	10	0.011960	0.0044257	0.005300	0.018100	0.00139954	0.1196	0.0000	37.004
OP-DDD	10	L 0.000800	0.0000000	L 0.000800	L 0.000800	0.00000000	0.0080	0.0000	0.000
PP-DDD	10	0.008570	0.0038629	0.003200	0.014700	0.00122157	0.0857	0.0000	45.075
OP-DDT	10	L 0.000800	0.0000000	L 0.000800	L 0.000800	0.00000000	0.0080	0.0000	0.000
PP-DDT	10	L 0.001000	0.0000000	L 0.001000	L 0.001000	0.00000000	0.0100	0.0000	0.000

APPENDIX 1 (c-3). YEAR=1978 SITE=SELKIRK SPECIES=FRESHWATER DRUM

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SITE=BM006 SPECIES=28									
LENGTH	10	30.6800000	2.6063171	24.7000000	34.3000000	0.82418934	306.80000	6.7929	8.495
WEIGHT	10	381.5000000	102.1450494	200.0000000	560.0000000	32.30110077	3815.00000	10433.6111	26.775
AGE	10	6.8000000	1.1352924	5.0000000	9.0000000	0.35901099	68.00000	1.2889	16.695
SEX	10	2.3000000	0.6749486	1.0000000	3.0000000	0.21343747	23.00000	0.4556	29.346
A-1248	10	L 0.0100000	0.0000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.0000	0.000
A-1254	10	0.1060000	0.0521110	0.0600000	0.2400000	0.01647894	1.06000	0.0027	49.161
A-1260	10	L 0.0100000	0.0000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.0000	0.000
ALDRIN	10	L 0.0020000	0.0000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.0000	0.000
CHLORDANE	10	L 0.0050000	0.0000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.0000	0.000
DIELDRIN	10	L 0.0010000	0.0000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.0000	0.000
ENDRIN	10	L 0.0050000	0.0000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.0000	0.000
LINDANE	10	L 0.0010000	0.0000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.0000	0.000
METHOXYCHLOR	10	L 0.0050000	0.0000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.0000	0.000
TOTAL-DDT	10	0.0315000	0.0493902	0.0070000	0.1700000	0.01561854	0.31500	0.0024	156.794
OP-DDE	10	L 0.0018000	0.0007888	L 0.0010000	0.0030000	0.00024944	0.01800	0.0000	43.823
PP-DDE	10	0.0057000	0.0026268	0.0020000	0.0100000	0.00083066	0.05700	0.0000	46.084
OP-DDD	10	L 0.0020000	0.0000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.0000	0.000
PP-DDD	10	0.0074000	0.0039777	0.0020000	0.0150000	0.00125786	0.07400	0.0000	53.753
OP-DDT	10	L 0.0020000	0.0000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.0000	0.000
PP-DDT	10	L 0.0180000	0.0464447	L 0.0020000	0.1500000	0.01468711	0.18000	0.0022	258.026

YEAR=1979 SITE=SELKIRK SPECIES=FRESHWATER DRUM

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=79 SITE=BM006 SPECIES=28									
LENGTH	10	35.0600000	5.9868745	26.3000000	46.000000	1.8932160	350.60000	35.843	17.076
WEIGHT	10	636.0000000	319.9374939	190.0000000	1210.000000	101.1731190	6360.00000	102360.000	50.305
AGE	10	8.0000000	1.3333333	6.0000000	10.000000	0.4216370	80.00000	1.778	16.667
SEX	10	2.0000000	0.4714045	1.0000000	3.000000	0.1490712	20.00000	0.222	23.570
A-1248	10	L 0.0100000	0.0000000	L 0.0100000	L 0.010000	0.0000000	0.10000	0.000	0.000
A-1254	10	0.0710000	0.0276687	0.0400000	0.120000	0.0087496	0.71000	0.001	38.970
A-1260	10	L 0.0100000	0.0000000	L 0.0100000	L 0.010000	0.0000000	0.10000	0.000	0.000
ALDRIN	10	L 0.0020000	0.0000000	L 0.0020000	L 0.002000	0.0000000	0.02000	0.000	0.000
CHLORDANE	10	L 0.0050000	0.0000000	L 0.0050000	L 0.005000	0.0000000	0.05000	0.000	0.000
DIELDRIN	10	L 0.0010000	0.0000000	L 0.0010000	L 0.001000	0.0000000	0.01000	0.000	0.000
ENDRIN	10	L 0.0050000	0.0000000	L 0.0050000	L 0.005000	0.0000000	0.05000	0.000	0.000
LINDANE	10	L 0.0010000	0.0000000	L 0.0010000	L 0.001000	0.0000000	0.01000	0.000	0.000
METHOXYCHLOR	10	L 0.0050000	0.0000000	L 0.0050000	L 0.005000	0.0000000	0.05000	0.000	0.000
TOTAL-DDT	10	L 0.0165000	0.0120945	L 0.0010000	0.040000	0.0038246	0.16500	0.000	73.300
OP-DDE	10	L 0.0011000	0.0003162	L 0.0010000	0.002000	0.0001000	0.01100	0.000	28.748
PP-DDE	10	L 0.0097000	0.0076891	L 0.0010000	0.026000	0.0024315	0.09700	0.000	79.269
OP-DDD	10	L 0.0010000	0.0000000	L 0.0010000	L 0.001000	0.0000000	0.01000	0.000	0.000
PP-DDD	10	L 0.0073000	0.0051435	L 0.0020000	0.016000	0.0016265	0.07300	0.000	70.459
OP-DDT	10	L 0.0020000	0.0000000	L 0.0020000	L 0.002000	0.0000000	0.02000	0.000	0.000
PP-DDT	10	L 0.0020000	0.0000000	L 0.0020000	L 0.002000	0.0000000	0.02000	0.000	0.000

APPENDIX 1 (c-3) cont'd. YEAR=1980 SITE=SELKIRK SPECIES=FRESHWATER DRUM

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=80 SITE=BM006 SPECIES=28									
LENGTH	10	34.7000000	4.6523590	22.1000000	38.1000000	1.47120510	347.00000	21.6444	13.407
WEIGHT	10	646.0000000	117.5868473	400.0000000	820.0000000	37.18422605	6460.00000	13826.6667	18.202
AGE	10	6.9000000	1.1005049	5.0000000	8.0000000	0.34801022	69.00000	1.2111	15.949
SEX	10	2.2000000	0.4216370	2.0000000	3.0000000	0.13333333	22.00000	0.1778	19.165
A-1248	10	L 0.0100000	0.0000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.0000	0.000
A-1254	10	L 0.0600000	0.0400000	L 0.0100000	0.1200000	0.01264911	0.60000	0.0016	66.667
A-1260	10	L 0.0100000	0.0000000	L 0.0100000	L 0.0100000	0.00000000	0.10000	0.0000	0.000
ALDRIN	10	L 0.0020000	0.0000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.0000	0.000
CHLORDANE	10	L 0.0050000	0.0000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.0000	0.000
DIELDRIN	10	L 0.0010000	0.0000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.0000	0.000
ENDRIN	10	L 0.0050000	0.0000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.0000	0.000
LINDANE	10	L 0.0010000	0.0000000	L 0.0010000	L 0.0010000	0.00000000	0.01000	0.0000	0.000
METHOXYCHLOR	10	L 0.0050000	0.0000000	L 0.0050000	L 0.0050000	0.00000000	0.05000	0.0000	0.000
TOTAL-DDT	10	0.0302000	0.0101412	0.0130000	0.0430000	0.00320694	0.30200	0.0001	33.580
OP-DDE	10	0.0110000	0.0020000	0.0070000	0.0130000	0.00063246	0.11000	0.0000	18.182
PP-DDE	10	0.0073000	0.0035606	0.0020000	0.0130000	0.00112596	0.07300	0.0000	48.775
OP-DDD	10	L 0.0020000	0.0000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.0000	0.000
PP-DDD	10	L 0.0103000	0.0069769	L 0.0020000	0.0200000	0.00220630	0.10300	0.0000	67.737
OP-DDT	10	L 0.0020000	0.0000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.0000	0.000
PP-DDT	10	L 0.0020000	0.0000000	L 0.0020000	L 0.0020000	0.00000000	0.02000	0.0000	0.000

YEAR=1981 SITE=SELKIRK SPECIES=FRESHWATER DRUM

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=81 SITE=BM006 SPECIES=28									
LENGTH	10	37.0800000	3.3061559	31.2000000	41.0000000	1.04549829	370.80000	10.9307	8.916
WEIGHT	10	712.0000000	205.1990903	400.0000000	990.0000000	64.88964992	7120.00000	42106.6667	28.820
AGE	10	10.9000000	2.2335821	5.0000000	13.0000000	0.70632067	109.00000	4.9889	20.492
SEX	10	2.3000000	0.4830459	2.0000000	3.0000000	0.15275252	23.00000	0.2333	21.002
A-1248	10	L 0.0060000	0.0000000	L 0.0060000	L 0.0060000	0.00000000	0.06000	0.0000	0.000
A-1254	10	L 0.0118000	0.0109016	L 0.0060000	0.0390000	0.00344738	0.11800	0.0001	92.386
A-1260	10	L 0.0223000	0.0147727	L 0.0060000	0.0440000	0.00467155	0.22300	0.0002	66.245
ALDRIN	10	L 0.0002000	0.0000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.0000	0.000
CHLORDANE	10	L 0.0008800	0.0008390	L 0.0004000	0.0024000	0.00026533	0.00880	0.0000	95.346
DIELDRIN	10	L 0.0004000	0.0000000	L 0.0004000	L 0.0004000	0.00000000	0.00400	0.0000	0.000
ENDRIN	10	L 0.0009000	0.0000000	L 0.0009000	L 0.0009000	0.00000000	0.00900	0.0000	0.000
LINDANE	10	L 0.0002000	0.0000000	L 0.0002000	L 0.0002000	0.00000000	0.00200	0.0000	0.000
METHOXYCHLOR	10	L 0.0040000	0.0000000	L 0.0040000	L 0.0040000	0.00000000	0.04000	0.0000	0.000
TOTAL-DDT	10	0.0230200	0.0104726	0.0103000	0.0362000	0.00331172	0.23020	0.0001	45.493
OP-DDE	10	0.0084800	0.0052544	0.0013000	0.0162000	0.00166158	0.08480	0.0000	61.962
PP-DDE	10	0.0078100	0.0037269	0.0029000	0.0144000	0.00117855	0.07810	0.0000	47.720
OP-DDD	10	L 0.0008000	0.0000000	L 0.0008000	L 0.0008000	0.00000000	0.00800	0.0000	0.000
PP-DDD	10	0.0059800	0.0024948	0.0025000	0.0090000	0.00078892	0.05980	0.0000	41.719
OP-DDT	10	L 0.0008000	0.0000000	L 0.0008000	L 0.0008000	0.00000000	0.00800	0.0000	0.000
PP-DDT	10	L 0.0016500	0.0020555	L 0.0010000	0.0075000	0.00065000	0.01650	0.0000	124.575

APPENDIX 1 (c-3) cont'd. YEAR=1982 SITE=SELKIRK SPECIES=FRESHWATER DRUM

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=82 SITE=BM006 SPECIES=28									
LENGTH	9	36.9222222	2.0783273	33.2000000	39.900000	0.69277577	332.30000	4.3194	5.629
WEIGHT	9	797.7777778	179.3584245	510.0000000	1180.000000	59.78614150	7180.00000	32169.4444	22.482
AGE	9	11.5555556	2.6034166	5.0000000	14.000000	0.86780552	104.00000	6.7778	22.530
SEX	9	2.4444444	0.5270463	2.0000000	3.000000	0.17568209	22.00000	0.2778	21.561
A-1248	9	L 0.0060000	0.0000000	L 0.0060000	L 0.006000	0.00000000	0.05400	0.0000	0.000
A-1254	9	L 0.0060000	0.0000000	L 0.0060000	L 0.006000	0.00000000	0.05400	0.0000	0.000
A-1260	9	0.0444444	0.0254711	0.0180000	0.082000	0.00849037	0.40000	0.0006	57.310
ALDRIN	9	L 0.0002000	0.0000000	L 0.0002000	L 0.000200	0.00000000	0.00180	0.0000	0.000
CHLORDANE	9	L 0.0023333	0.0020100	L 0.0003000	0.005300	0.00066999	0.02100	0.0000	86.142
DIELDRIN	9	L 0.0004000	0.0000000	L 0.0004000	L 0.000400	0.00000000	0.00360	0.0000	0.000
ENDRIN	9	L 0.0009000	0.0000000	L 0.0009000	L 0.000900	0.00000000	0.00810	0.0000	0.000
LINDANE	9	L 0.0002000	0.0000000	L 0.0002000	L 0.000200	0.00000000	0.00180	0.0000	0.000
METHOXYCHLOR	9	L 0.0040000	0.0000000	L 0.0040000	L 0.004000	0.00000000	0.03600	0.0000	0.000
TOTAL-DDT	9	0.0519333	0.0479574	0.0177000	0.164900	0.01598580	0.46740	0.0023	92.344
OP-DDE	9	0.0066556	0.0051767	0.0016000	0.015800	0.00172555	0.05990	0.0000	77.779
PP-DDE	9	0.0202111	0.0168179	0.0082000	0.059500	0.00560596	0.18190	0.0003	83.211
OP-DDD	9	L 0.0008000	0.0000000	L 0.0008000	L 0.000800	0.00000000	0.00720	0.0000	0.000
PP-DDD	9	0.0250667	0.0277115	0.0058000	0.092200	0.00923715	0.22560	0.0008	110.551
OP-DDT	9	L 0.0008000	0.0000000	L 0.0008000	L 0.000800	0.00000000	0.00720	0.0000	0.000
PP-DDT	9	L 0.0010000	0.0000000	L 0.0010000	L 0.001000	0.00000000	0.00900	0.0000	0.000

YEAR=1983 SITE=SELKIRK SPECIES=FRESHWATER DRUM

LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
YEAR=83 SITE=BM006 SPECIES=28									
LENGTH	7	33.8285714	8.8001353	14.20000000	38.900000	3.3261385	236.80000	77.4424	26.014
WEIGHT	7	661.4285714	314.6653551	40.00000000	1060.000000	118.9323251	4630.00000	99014.2857	47.574
AGE	5	12.2000000	6.2609903	4.00000000	20.000000	2.8000000	61.00000	39.2000	51.320
SEX	7	2.0000000	0.5773503	1.00000000	3.000000	0.2182179	14.00000	0.3333	28.868
A-1248	7	L 0.0060000	0.0000000	L 0.00600000	L 0.006000	0.0000000	0.04200	0.0000	0.000
A-1254	7	L 0.0060000	0.0000000	L 0.00600000	L 0.006000	0.0000000	0.04200	0.0000	0.000
A-1260	7	L 0.0405714	0.0188579	L 0.00600000	0.068000	0.0071276	0.28400	0.0004	46.481
ALDRIN	7	L 0.0002000	0.0000000	L 0.00020000	L 0.000200	0.0000000	0.00140	0.0000	0.000
CHLORDANE	7	L 0.0003000	0.0000000	L 0.00030000	L 0.000300	0.0000000	0.00210	0.0000	0.000
DIELDRIN	7	L 0.0004000	0.0000000	L 0.00040000	L 0.000400	0.0000000	0.00280	0.0000	0.000
ENDRIN	7	L 0.0009000	0.0000000	L 0.00090000	L 0.000900	0.0000000	0.00630	0.0000	0.000
LINDANE	7	L 0.0002000	0.0000000	L 0.00020000	L 0.000200	0.0000000	0.00140	0.0000	0.000
METHOXYCHLOR	7	L 0.0040000	0.0000000	L 0.00400000	L 0.004000	0.0000000	0.02800	0.0000	0.000
TOTAL-DDT	7	0.0147571	0.0050846	0.00410000	0.020100	0.0019218	0.10330	0.0000	34.455
OP-DDE	7	L 0.0033429	0.0015841	L 0.00040000	0.005200	0.0005988	0.02340	0.0000	47.389
PP-DDE	7	0.0068857	0.0019351	0.00410000	0.008900	0.0007314	0.04820	0.0000	28.104
OP-DDD	7	L 0.0008000	0.0000000	L 0.00080000	L 0.000800	0.0000000	0.00560	0.0000	0.000
PP-DDD	7	L 0.0047286	0.0020613	L 0.00100000	0.006700	0.0007791	0.03310	0.0000	43.593
OP-DDT	7	L 0.0008000	0.0000000	L 0.00080000	L 0.000800	0.0000000	0.00560	0.0000	0.000
PP-DDT	7	L 0.0010000	0.0000000	L 0.00100000	L 0.001000	0.0000000	0.00700	0.0000	0.000

APPENDIX II

PAGE

2 (a). Organochlorine residues (µg/g) in fish from the Red River at Emerson (1978-1983):
- 2 (a-1): Sauger..... 51
- 2 (a-2): Goldeye..... 54
- 2 (a-3): Walleye..... 57

2 (b). Organochlorine residues (µg/g) in fish from the Red River at St. Norbert (1978-1983):
- 2 (b-1): Sauger..... 60
- 2 (b-2): Goldeye..... 63
- 2 (b-3): Common Sucker..... 66

2 (c). Organochlorine residues (µg/g) in fish from the Red River at Selkirk (1978-1983):
- 2 (c-1): Sauger..... 69
- 2 (c-2): Common Sucker..... 72
- 2 (c-3): Freshwater Drum..... 75

Note: - The symbol "L" refers to "Less than"
- Sex is defined numerically as follows: 1 - immature
2 - male
3 - female
4 - regenerate

APPENDIX 2 (a-1). YEAR=1978 SITE=EMERSON SPECIES=SAUGER

---------- YEAR=78 SITE=BM004 SPECIES=18 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	37.6	320	3	3	L	0.01		0.09	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
2	29.8	260	3	2	L	0.01		0.05	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
3	31.5	240	3	3	L	0.01		0.16	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
4	30.5	250	3	3	L	0.01		0.15	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
5	31.6	340	3	3	L	0.01		0.16	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
6	30.3	270	3	3	L	0.01		0.03	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
7	25.5	160	2	2	L	0.01		0.15	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
8	29.4	260	3	2	L	0.01		0.08	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
9	31.4	300	3	3	L	0.01		0.17	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
10	27.8	210	3	2	L	0.01		0.23	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.001	L	0.005		0.022		0.004		0.010	L	0.002		0.008	L	0.002	L	0.002
2	0.001	L	0.005		0.007	L	0.001		0.007	L	0.002	L	0.002	L	0.002	L	0.002
3	0.001	L	0.005		0.017		0.003		0.014	L	0.002	L	0.002	L	0.002	L	0.002
4	0.001	L	0.005		0.016	L	0.001		0.016	L	0.002	L	0.002	L	0.002	L	0.002
5	0.001	L	0.005		0.016	L	0.001		0.016	L	0.002	L	0.002	L	0.002	L	0.002
6	0.001	L	0.005		0.008		0.002		0.006	L	0.002	L	0.002	L	0.002	L	0.002
7	0.001	L	0.005		0.021		0.006		0.015	L	0.002	L	0.002	L	0.002	L	0.002
8	0.001	L	0.005		0.016	L	0.001		0.016	L	0.002	L	0.002	L	0.002	L	0.002
9	0.001	L	0.005		0.025		0.004		0.013	L	0.002	L	0.002		0.018	L	0.002
10	0.001	L	0.005		0.020		0.003		0.017	L	0.002	L	0.002	L	0.002	L	0.002

YEAR=1979 SITE=EMERSON SPECIES=SAUGER

---------- YEAR=79 SITE=BM004 SPECIES=18 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	32.0	350	5	2	L	0.01		0.06	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
2	29.4	250	4	2	L	0.01		0.08	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
3	29.0	260	4	2	L	0.01		0.08	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
4	27.3	230	4	3	L	0.01		0.09	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
5	27.5	220	4	3	L	0.01		0.09	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
6	32.8	350	6	2	L	0.01		0.09	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
7	29.9	250	5	3	L	0.01		0.06	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
8	27.7	220	4	3	L	0.01		0.05	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
9	31.2	280	4	3	L	0.01		0.09	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
10	29.6	260	4	2	L	0.01		0.07	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.001	L	0.005		0.005	L	0.001		0.005	L	0.002	L	0.002	L	0.002	L	0.002
2	0.001	L	0.005		0.019	L	0.001		0.010	L	0.002		0.009	L	0.002	L	0.002
3	0.001	L	0.005		0.013	L	0.001		0.007	L	0.002		0.006	L	0.002	L	0.002
4	0.001	L	0.005		0.010	L	0.001		0.005	L	0.002		0.005	L	0.002	L	0.002
5	0.001	L	0.005		0.018		0.004		0.007	L	0.002		0.007	L	0.002	L	0.002
6	0.001	L	0.005		0.020		0.005		0.010	L	0.002		0.005	L	0.002	L	0.002
7	0.001	L	0.005		0.008	L	0.001		0.005	L	0.002		0.003	L	0.002	L	0.002
8	0.001	L	0.005		0.009	L	0.001		0.005	L	0.002		0.004	L	0.002	L	0.002
9	0.001	L	0.005		0.014	L	0.001		0.007	L	0.002		0.007	L	0.002	L	0.002
10	0.001	L	0.005		0.030	L	0.001		0.030	L	0.002	L	0.002	L	0.002	L	0.002

APPENDIX 2 (a-1) cont'd.

YEAR=1980 SITE=EMERSON SPECIES=SAUGER

---------- YEAR=80 SITE=BM004 SPECIES=18 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	36.5	520	5	3	L	0.01	L	0.01	L	0.01	L	0,002	L	0.005	L	0.001	L	0.005	L
2	32.5	370	5	3	L	0.01	L	0.01	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
3	32.8	370	4	3	L	0.01	L	0.01	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
4	31.5	300	4	3	L	0.01		0.03	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
5	30.4	270	4	2	L	0.01		0.06	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
6	32.5	340	5	2	L	0.01		0.07	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
7	27.6	200	4	2	L	0.01		0.04	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
8	33.1	300	5	3	L	0.01	L	0.01		0.04	L	0.002	L	0.005	L	0.001	L	0.005	L
9	32.5	390	4	3	L	0.01	L	0.01		0.03	L	0.002	L	0.005	L	0.001	L	0.005	L
10	36.6	390	5	3	L	0.01	L	0.01		0.04	L	0.002	L	0.005	L	0.001	L	0.005	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.001	L	0.005		0.003	L	0.001		0.003	L	0.002	L	0.002	L	0.002	L	0.002
2	0.001	L	0.005		0.003	L	0.001		0.003	L	0.002	L	0.002	L	0.002	L	0.002
3	0.001	L	0.005		0.002	L	0.001		0.002	L	0.002	L	0.002	L	0.002	L	0.002
4	0.001	L	0.005		0.014		0.003		0.006	L	0.002		0.005	L	0.002	L	0.002
5	0.001	L	0.005		0.034		0.008		0.016	L	0.002		0.010	L	0.002	L	0.002
6	0.001	L	0.005		0.011		0.003		0.008	L	0.002	L	0.002	L	0.002	L	0.002
7	0.001	L	0.005		0.015		0.003		0.009	L	0.002		0.004	L	0.002	L	0.002
8	0.001	L	0.005		0.008		0.006		0.002	L	0.002	L	0.002	L	0.002	L	0.002
9	0.001	L	0.005		0.011		0.002		0.005	L	0.002		0.004	L	0.002	L	0.002
10	0.001	L	0.005		0.020		0.004		0.008	L	0.002		0.008	L	0.002	L	0.002

YEAR=1981 SITE=EMERSON SPECIES=SAUGER

---------- YEAR=81 SITE=BM004 SPECIES=18 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDPIN	*****
1	35.5	500	7	3	L	0.006		0.070	L	0.006	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
2	38.8	600	6	3	L	0.006	L	0.006		0.029	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
3	33.2	380	5	3	L	0.006	L	0.006		0.022	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
4	22.2	80	3	3	L	0.006	L	0.006		0.032	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
5	20.7	60	2	3	L	0.006	L	0.006		0.082	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
6	18.0	40	2	3	L	0.006	L	0.006		0.061	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
7	39.1	710	6	3	L	0.006	L	0.006		0.014	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
8	35.1	460	5	3	L	0.006	L	0.006		0.012	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
9	35.7	480	4	3	L	0.006	L	0.006		0.018	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
10	33.8	380	6	3	L	0.006	L	0.006		0.034	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004		0.0196		0.0046		0.0057	L	0.0008		0.0093	L	0.0008	L	0.001
2	0.0002	L	0.004		0.0197		0.0065		0.0054	L	0.0008		0.0078	L	0.0008	L	0.001
3	0.0002	L	0.004		0.0084		0.0016		0.0030	L	0.0008		0.0030	L	0.0008	L	0.001
4	0.0002	L	0.004		0.0200		0.0048		0.0068	L	0.0008		0.0084	L	0.0008	L	0.001
5	0.0002	L	0.004		0.0035	L	0.0004		0.0154	L	0.0008		0.0081	L	0.0008	L	0.001
6	0.0002	L	0.004		0.0129	L	0.0004		0.0129	L	0.0008	L	0.0013	L	0.0008	L	0.001
7	0.0002	L	0.004		0.0093		0.0012		0.0045	L	0.0008		0.0036	L	0.0008	L	0.001
8	0.0002	L	0.004		0.0054		0.0006		0.0006	L	0.0008		0.0022	L	0.0008	L	0.001
9	0.0002	L	0.004		0.0095	L	0.0004		0.0044	L	0.0008		0.0051	L	0.0008	L	0.001
10	0.0002	L	0.004		0.0122	L	0.0004		0.0107	L	0.0008		0.0104	L	0.0008	L	0.001

APPENDIX 2 (a-1) cont'd.

YEAR=1982 SITE=EMERSON SPECIES=SAUGER

YEAR=82 SITE=BM004 SPECIES=18

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	22.5	80	2	3	L	0.006	L	0.006		0.026	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
2	28.1	200	3	2	L	0.006	L	0.006		0.024	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
3	20.0	40	3	3	L	0.006	L	0.006		0.037	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
4	33.8	400	3	3	L	0.006	L	0.006		0.010	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
5	22.2	80	3	3	L	0.006	L	0.006		0.030	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
6	34.4	400	6	3	L	0.006	L	0.006		0.029	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
7	24.5	160	4	2	L	0.006	L	0.006		0.020	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
8	31.4	340	4	3	L	0.006	L	0.006		0.014	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
9	31.0	340	5	2	L	0.006	L	0.006		0.026	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
10	31.2	340	3	3	L	0.006	L	0.006	L	0.013	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004		0.0165		0.0035		0.0058	L	0.0008		0.0072	L	0.0008	L	0.001
2	0.0002	L	0.004		0.0159		0.0040		0.0060	L	0.0008		0.0059	L	0.0008	L	0.001
3	0.0002	L	0.004		0.0352		0.0039		0.0313	L	0.0008	L	0.0010	L	0.0008	L	0.001
4	0.0002	L	0.004		0.0076		0.0021		0.0025	L	0.0008		0.0030	L	0.0008	L	0.001
5	0.0002	L	0.004		0.0105		0.0043		0.0062	L	0.0008	L	0.0010	L	0.0008	L	0.001
6	0.0002	L	0.004		0.0185		0.0045		0.0066	L	0.0008		0.0074	L	0.0008	L	0.001
7	0.0002	L	0.004		0.0074		0.0028		0.0046	L	0.0008	L	0.0010	L	0.0008	L	0.001
8	0.0002	L	0.004		0.0101		0.0026		0.0037	L	0.0008		0.0033	L	0.0008	L	0.001
9	0.0002	L	0.004		0.0150		0.0039		0.0059	L	0.0008		0.0052	L	0.0008	L	0.001
10	0.0002	L	0.004		0.0086		0.0021		0.0030	L	0.0008		0.0035	L	0.0008	L	0.001

YEAR=1983 SITE=EMERSON SPECIES=SAUGER

YEAR=83 SITE=BM004 SPECIES=18

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	33.3	380	4	3	L	0.006	L	0.006	.	0.022	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
2	33.0	380	.	3	L	0.006	L	0.006	.	0.038	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
3	33.1	410	4	3	L	0.006	L	0.006	.	0.016	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
4	32.3	360	4	3	L	0.006	L	0.006	.	0.021	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
5	29.9	280	3	2	L	0.006	L	0.006	.	0.025	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
6	32.3	330	9	2	L	0.006	L	0.006	.	0.123	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004	.	0.0144	.	0.0023	.	0.0078	L	0.001	.	0.0043	L	0.0008	L	0.001
2	0.0002	L	0.004	.	0.0268	.	0.0040	.	0.0136	L	0.001	.	0.0092	L	0.0008	L	0.001
3	0.0002	L	0.004	.	0.0083	.	0.0014	.	0.0049	L	0.001	.	0.0020	L	0.0008	L	0.001
4	0.0002	L	0.004	.	0.0147	.	0.0024	.	0.0079	L	0.001	.	0.0044	L	0.0008	L	0.001
5	0.0002	L	0.004	.	0.0127	.	0.0020	.	0.0075	L	0.001	.	0.0032	L	0.0008	L	0.001
6	0.0002	L	0.004	.	0.0559	.	0.0106	.	0.0453	L	0.001	L	0.0010	L	0.0008	L	0.001

APPENDIX 2 (a-2). YEAR=1978 SITE=EMERSON SPECIES=GOLDEYE

YEAR=78 SITE=BM004 SPECIES=27

OBS	LENGTH	WEIGHT	AGE	SEX	***** A-1248	***** A-1254	***** A-1260	***** ALDRIN	***** CHLORDANE	***** DIELDRIN	***** ENDRIN *****
1	29.8	310	8	3	L 0.01	1.17	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
2	30.2	290	8	2	L 0.01	0.12	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
3	27.2	260	7	3	L 0.01	0.16	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
4	33.2	410	10	3	L 0.01	0.10	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
5	32.4	310	8	2	L 0.01	1.20	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
6	25.5	200	6	2	L 0.01	0.66	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
7	26.2	200	6	2	L 0.01	0.56	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
8	25.8	200	6	2	L 0.01	0.09	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
9	27.0	210	6	2	L 0.01	0.17	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
10	29.4	330	7	2	L 0.01	0.48	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L

OBS	LINDANE *****	METHOXYCHLOR *****	TOTAL-DDT *****	OP-DDE *****	PP-DDE *****	OP-DDD *****	PP-DDD *****	OP-DDT *****	PP-DDT
1	0.001 L	0.005	0.090	0.004	0.047	L 0.002	L 0.002	0.038	L 0.002
2	0.001 L	0.005	0.040	L 0.001	0.040	L 0.002	L 0.002	L 0.002	L 0.002
3	0.001 L	0.005	0.025	L 0.001	0.025	L 0.002	L 0.002	L 0.002	L 0.002
4	0.001 L	0.005	0.024	L 0.001	0.012	L 0.002	0.012	L 0.002	L 0.002
5	0.001 L	0.005	0.180	L 0.001	0.180	L 0.002	L 0.002	L 0.002	L 0.002
6	0.001 L	0.005	0.240	L 0.001	0.070	L 0.002	0.120	L 0.002	L 0.002
7	0.001 L	0.005	0.150	L 0.001	0.090	L 0.002	0.050	L 0.002	L 0.002
8	0.001 L	0.005	0.014	L 0.001	0.014	L 0.002	L 0.002	L 0.002	L 0.002
9	0.001 L	0.005	0.050	L 0.001	0.021	L 0.002	0.029	L 0.002	L 0.002
10	0.001 L	0.005	0.100	L 0.001	0.060	L 0.002	0.040	L 0.002	L 0.002

YEAR=1979 SITE=EMERSON SPECIES=GOLDEYE

YEAR=79 SITE=BM004 SPECIES=27

OBS	LENGTH	WEIGHT	AGE	SEX	***** A-1248	***** A-1254	***** A-1260	***** ALDRIN	***** CHLORDANE	***** DIELDRIN	***** ENDRIN *****
1	28.5	270	5	2	L 0.01	0.22	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
2	31.5	380	7	3	L 0.01	0.16	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
3	30.8	310	8	3	L 0.01	0.30	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
4	31.3	400	8	2	L 0.01	0.21	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
5	30.5	390	9	3	L 0.01	0.29	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
6	23.3	160	6	2	L 0.01	0.25	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
7	24.2	160	5	1	L 0.01	0.17	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
8	29.2	270	6	2	L 0.01	0.15	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
9	25.8	220	5	2	L 0.01	0.64	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
10	33.7	150	5	1	L 0.01	0.19	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L

OBS	LINDANE *****	METHOXYCHLOR *****	TOTAL-DDT *****	OP-DDE *****	PP-DDE *****	OP-DDD *****	PP-DDD *****	OP-DDT *****	PP-DDT
1	0.001 L	0.005	0.079	0.009	0.030	L 0.002	0.030	L 0.002	0.010
2	0.001 L	0.005	0.030	L 0.001	0.030	L 0.002	L 0.002	L 0.002	L 0.002
3	0.001 L	0.005	0.020	L 0.001	0.020	L 0.002	L 0.002	L 0.002	L 0.002
4	0.001 L	0.005	0.030	L 0.001	0.030	L 0.002	L 0.002	L 0.002	L 0.002
5	0.001 L	0.005	0.012	L 0.001	0.012	L 0.002	L 0.002	L 0.002	L 0.002
6	0.001 L	0.005	0.017	L 0.001	0.017	L 0.002	L 0.002	L 0.002	L 0.002
7	0.001 L	0.005	0.013	L 0.001	0.013	L 0.002	L 0.002	L 0.002	L 0.002
8	0.001 L	0.005	0.013	L 0.001	0.013	L 0.002	L 0.002	L 0.002	L 0.002
9	0.001 L	0.005	0.020	L 0.001	0.020	L 0.002	L 0.002	L 0.002	L 0.002
10	0.001 L	0.005	0.010	L 0.001	0.010	L 0.002	L 0.002	L 0.002	L 0.002

APPENDIX 2 (a-2) cont'd. YEAR=1980 SITE=EMERSON SPECIES=GOLDEYE

YEAR=80 SITE=BM004 SPECIES=27

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	28.7	300	4	2	L	0.01		0.15	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
2	31.1	360	5	2	L	0.01		0.16	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
3	27.3	250	6	2	L	0.01		0.07	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
4	28.8	300	6	2	L	0.01		0.06	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
5	30.5	330	6	2	L	0.01		0.05	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
6	28.3	300	5	2	L	0.01		0.17	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
7	29.1	290	5	3	L	0.01		0.04	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
8	28.3	280	5	2	L	0.01		0.06	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
9	27.4	240	5	2	L	0.01		0.17	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
10	26.8	220	5	2	L	0.01		0.15	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.001	L	0.005		0.029	L	0.001		0.013	L	0.002		0.016	L	0.002	L	0.002
2	0.001	L	0.005		0.051		0.014		0.024	L	0.002		0.013	L	0.002	L	0.002
3	0.001	L	0.005		0.011	L	0.001		0.006	L	0.002		0.005	L	0.002	L	0.002
4	0.001	L	0.005		0.017		0.002		0.008	L	0.002		0.007	L	0.002	L	0.002
5	0.001	L	0.005		0.010		0.002		0.005	L	0.002		0.003	L	0.002	L	0.002
6	0.001	L	0.005		0.145		0.021		0.092	L	0.002		0.051	L	0.002	L	0.002
7	0.001	L	0.005		0.006	L	0.001		0.003	L	0.002		0.003	L	0.002	L	0.002
8	0.001	L	0.005		0.009	L	0.001		0.003	L	0.002		0.006	L	0.002	L	0.002
9	0.001	L	0.005		0.104		0.022		0.031	L	0.002		0.051	L	0.002	L	0.002
10	0.001	L	0.005		0.076		0.010		0.051	L	0.002		0.015	L	0.002	L	0.002

YEAR=1981 SITE=EMERSON SPECIES=GOLDEYE

YEAR=81 SITE=BM004 SPECIES=27

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	32.7	540	7	3	L	0.006	L	0.006		0.165	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
2	25.8	200	5	2	L	0.006	L	0.006		0.060	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
3	30.8	370	6	3	L	0.006	L	0.006		0.107	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
4	31.3	400	6	2	L	0.006	L	0.006		0.210	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
5	31.5	360	5	3	L	0.006	L	0.006		0.020	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
6	28.3	290	5	2	L	0.006	L	0.006		0.120	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
7	31.0	400	5	3	L	0.006	L	0.006		0.272	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
8	31.4	360	6	3	L	0.006	L	0.006	L	0.006	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
9	30.0	350	5	2	L	0.006	L	0.006		0.061	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
10	27.4	240	5	2	L	0.006	L	0.006	L	0.006	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004		0.1422	L	0.0004		0.0630	L	0.0008		0.0792	L	0.0008	L	0.001
2	0.0002	L	0.004		0.0515	L	0.0004		0.0326	L	0.0008		0.0189	L	0.0008	L	0.001
3	0.0002	L	0.004		0.0439	L	0.0004		0.0241	L	0.0008		0.0198	L	0.0008	L	0.001
4	0.0002	L	0.004		0.2040		0.0300		0.0680	L	0.0008		0.0860	L	0.0008	L	0.001
5	0.0002	L	0.004		0.0190		0.0030		0.0110	L	0.0008		0.0050	L	0.0008	L	0.001
6	0.0002	L	0.004		0.0890		0.0190		0.0390	L	0.0008		0.0310	L	0.0008	L	0.001
7	0.0002	L	0.004		0.0908	L	0.0004		0.0456	L	0.0008		0.0422	L	0.0008	L	0.001
8	0.0002	L	0.004		0.0303	L	0.0004		0.0303	L	0.0008		0.0013	L	0.0008	L	0.001
9	0.0002	L	0.004		0.0378		0.0102		0.0161	L	0.0008		0.0115	L	0.0008	L	0.001
10	0.0002	L	0.004		0.0301		0.0071		0.0149	L	0.0008		0.0081	L	0.0008	L	0.001

APPENDIX 2 (a-2) cont'd. YEAR=1982 SITE=EMERSON SPECIES=GOLDEYE

---------- YEAR=82 SITE=BM004 SPECIES=27 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	25.6	180	3	2	L	0.006	L	0.006		0.053	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
2	26.3	220	3	2	L	0.006	L	0.006	L	0.022	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
3	29.0	260	3	3	L	0.006	L	0.006		0.154	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
4	28.9	280	3	1	L	0.006	L	0.006		0.029	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
5	30.7	320	4	3	L	0.006	L	0.006		0.043	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
6	27.0	200	4	1	L	0.006	L	0.006		0.077	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
7	27.0	220	3	2	L	0.006	L	0.006		0.076	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
8	29.4	280	3	2	L	0.006	L	0.006		0.072	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
9	30.1	320	3	2	L	0.006	L	0.006		0.159	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
10	33.0	460	4	3	L	0.006	L	0.006		0.053	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004		0.0338		0.0118		0.0111	L	0.0008		0.0109	L	0.0008	L	0.001
2	0.0002	L	0.004		0.0267		0.0065		0.0121	L	0.0008		0.0081	L	0.0008	L	0.001
3	0.0002	L	0.004		0.1300		0.0352		0.0555	L	0.0008		0.0393	L	0.0008	L	0.001
4	0.0002	L	0.004		0.1134		0.0272		0.0528	L	0.0008		0.0334	L	0.0008	L	0.001
5	0.0002	L	0.004		0.0455		0.0069		0.0273	L	0.0008		0.0113	L	0.0008	L	0.001
6	0.0002	L	0.004		0.0674		0.0122		0.0332	L	0.0008		0.0220	L	0.0008	L	0.001
7	0.0002	L	0.004		0.0641		0.0209		0.0213	L	0.0008		0.0219	L	0.0008	L	0.001
8	0.0002	L	0.004		0.0626		0.0151		0.0206	L	0.0008		0.0189	L	0.0008	L	0.001
9	0.0002	L	0.004		0.1352		0.0243		0.0891	L	0.0008		0.0218	L	0.0008	L	0.001
10	0.0002	L	0.004		0.0586		0.0115		0.0304	L	0.0008		0.0167	L	0.0008	L	0.001

YEAR=1983 SITE=EMERSON SPECIES=GOLDEYE

---------- YEAR=83 SITE=BM004 SPECIES=27 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	29.5	300	3	3	L	0.006	L	0.006	.	0.029	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
2	27.4	220	3	2	L	0.006	L	0.006	.	0.061	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
3	28.7	280	4	2	L	0.006	L	0.006	.	0.097	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
4	27.8	240	3	2	L	0.006	L	0.006	.	0.077	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
5	26.9	200	3	2	L	0.006	L	0.006	.	0.072	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
6	28.0	250	4	2	L	0.006	L	0.006	.	0.043	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
7	33.2	410	4	3	L	0.006	L	0.006	.	0.177	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
8	30.3	360	5	2	L	0.006	L	0.006	.	0.199	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
9	26.7	220	3	2	L	0.006	L	0.006	.	0.079	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
10	30.4	360	5	3	L	0.006	L	0.006	.	0.041	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004	.	0.0410	.	0.0042	.	0.0305	L	0.0010	.	0.0063	L	0.0008	L	0.001
2	0.0002	L	0.004	.	0.0345	.	0.0070	.	0.0168	L	0.0008	.	0.0107	L	0.0008	L	0.001
3	0.0002	L	0.004	.	0.0465	.	0.0116	.	0.0244	L	0.0008	.	0.0105	L	0.0008	L	0.001
4	0.0002	L	0.004	.	0.0431	.	0.0089	.	0.0218	L	0.0008	.	0.0124	L	0.0008	L	0.001
5	0.0002	L	0.004	.	0.0399	.	0.0080	.	0.0225	L	0.0008	.	0.0094	L	0.0008	L	0.001
6	0.0002	L	0.004	.	0.0233	.	0.0056	.	0.0159	L	0.0008	.	0.0018	L	0.0008	L	0.001
7	0.0002	L	0.004	.	0.0569	.	0.0075	.	0.0494	L	0.0008	L	0.0010	L	0.0008	L	0.001
8	0.0002	L	0.004	.	0.0935	.	0.0210	.	0.0531	L	0.0008	.	0.0194	L	0.0008	L	0.001
9	0.0002	L	0.004	.	0.0310	.	0.0070	.	0.0197	L	0.0008	.	0.0043	L	0.0008	L	0.001
10	0.0002	L	0.004	.	0.0169	.	0.0033	.	0.0113	L	0.0008	.	0.0023	L	0.0008	L	0.001

APPENDIX 2 (a-3). YEAR=1978 SITE=EMERSON SPECIES=WALLEYE

---------- YEAR=78 SITE=BM004 SPECIES=17 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	39.4	620	5	2	L	0.01		0.30	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
2	36.9	470	4	3	L	0.01		0.30	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
3	40.7	640	5	3	L	0.01		0.35	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
4	30.3	280	3	3	L	0.01		0.01	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
5	30.5	280	3	3	L	0.01		0.06	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
6	30.8	300	3	2	L	0.01		0.08	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
7	45.3	1040	7	3	L	0.01		0.20	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	
8	35.5	490	4	3	L	0.01		0.10	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
9	45.3	900	5	3	L	0.01		0.09	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
10	34.5	400	3	2	L	0.01		0.04	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.001	L	0.005		0.040		0.010		0.030	L	0.002	L	0.002	L	0.002	L	0.002
2	0.001	L	0.005		0.030	L	0.001		0.030	L	0.002	L	0.002	L	0.002	L	0.002
3	0.001	L	0.005		0.020	L	0.001		0.020	L	0.002	L	0.002	L	0.002	L	0.002
4	0.001	L	0.005		0.040	L	0.001		0.040	L	0.002	L	0.002	L	0.002	L	0.002
5	0.001	L	0.005		0.014	L	0.001		0.014	L	0.002	L	0.002	L	0.002	L	0.002
6	0.001	L	0.005		0.008	L	0.001		0.008	L	0.002	L	0.002	L	0.002	L	0.002
7	0.003	L	0.005		0.020	L	0.001		0.020	L	0.002	L	0.002	L	0.002	L	0.002
8	0.001	L	0.005		0.020	L	0.001		0.020	L	0.002	L	0.002	L	0.002	L	0.002
9	0.001	L	0.005		0.045		0.006		0.024	L	0.002		0.007		0.007	L	0.002
10	0.001	L	0.005		0.006	L	0.001		0.006	L	0.002	L	0.002	L	0.002	L	0.002

YEAR=1979 SITE=EMERSON SPECIES=WALLEYE

---------- YEAR=79 SITE=BM004 SPECIES=17 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	39.7	700	5	2	L	0.01		0.08	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
2	61.0	2890	8	3	L	0.01		0.03	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
3	51.5	1510	7	3	L	0.01		0.02	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
4	64.1	3290	9	3	L	0.01		0.18	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.001	L	0.005		0.006	L	0.001		0.006	L	0.002	L	0.002	L	0.002	L	0.002
2	0.001	L	0.005		0.003	L	0.001		0.003	L	0.002	L	0.002	L	0.002	L	0.002
3	0.001	L	0.005	L	0.001	L	0.001	L	0.001	L	0.002	L	0.002	L	0.002	L	0.002
4	0.001	L	0.005		0.070	L	0.001		0.070	L	0.002	L	0.002	L	0.002	L	0.002

APPENDIX 2 (a-3) cont'd. YEAR=1980 SITE=EMERSON SPECIES=WALLEYE

---------- YEAR=80 SITE=EM004 SPECIES=17 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	33.1	710	4	3	L	0.01		0.03	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
2	32.1	370	4	3	L	0.01		0.05	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
3	29.6	260	4	3	L	0.01		0.09	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
4	33.3	370	5	3	L	0.01		0.04	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.001	L	0.005		0.003	L	0.001		0.003	L	0.002	L	0.002	L	0.002	L	0.002
2	0.001	L	0.005		0.015		0.004		0.011	L	0.002	L	0.002	L	0.002	L	0.002
3	0.001	L	0.005		0.020		0.005		0.010	L	0.002		0.005	L	0.002	L	0.002
4	0.001	L	0.005		0.006	L	0.001		0.004	L	0.002		0.002	L	0.002	L	0.002

YEAR=1981 SITE=EMERSON SPECIES=WALLEYE

---------- YEAR=81 SITE=EM004 SPECIES=17 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	40.9	660	3	3	L	0.006	L	0.006		0.031	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
2	35.9	480	3	2	L	0.006	L	0.006		0.019	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
3	34.2	360	3	3	L	0.006	L	0.006	L	0.006	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
4	45.2	900	4	3	L	0.006	L	0.006		0.154	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
5	40.0	640	3	3	L	0.006	L	0.006		0.031	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
6	54.0	2120	11	2	L	0.006	L	0.006		0.105	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004		0.0082	L	0.0004		0.0082	L	0.0008	L	0.0013	L	0.0008	L	0.001
2	0.0002	L	0.004		0.0082	L	0.0004		0.0038	L	0.0008		0.0044	L	0.0008	L	0.001
3	0.0002	L	0.004		0.0795	L	0.0004		0.0479	L	0.0008		0.0316	L	0.0008	L	0.001
4	0.0002	L	0.004		0.0899		0.0197		0.0337	L	0.0008		0.0365	L	0.0008	L	0.001
5	0.0002	L	0.004		0.0249		0.0044		0.0153	L	0.0008		0.0052	L	0.0008	L	0.001
6	0.0002	L	0.004		0.0922		0.0234		0.0688	L	0.0008	L	0.0013	L	0.0008	L	0.001

APPENDIX 2 (a-3) cont'd.

YEAR=1982 SITE=EMERSON SPECIES=WALLEYE

---------- YEAR=82 SITE=BM004 SPECIES=17 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	40.5	680	3	3	L	0.006	L	0.006	L	0.006	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
2	43.9	920	3	3	L	0.006	L	0.006		0.016	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
3	41.2	720	2	2	L	0.006	L	0.006		0.028	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
4	44.2	980	8	2	L	0.006	L	0.006		0.033	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
5	35.8	460	9	2	L	0.006	L	0.006		0.020	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
6	44.3	840	3	3	L	0.006	L	0.006	L	0.006	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
7	32.8	360	.	3	L	0.006	L	0.006		0.054	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
8	40.7	650	3	3	L	0.006	L	0.006		0.040	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004		0.0021	L	0.0004		0.0021	L	0.0008	L	0.0010	L	0.0008	L	0.001
2	0.0002	L	0.004		0.0044		0.0004		0.0040	L	0.0008	L	0.0010	L	0.0008	L	0.001
3	0.0002	L	0.004		0.0058		0.0007		0.0041	L	0.0008		0.0010	L	0.0008	L	0.001
4	0.0002	L	0.004		0.0171		0.0036		0.0103	L	0.0008		0.0032	L	0.0008	L	0.001
5	0.0002	L	0.004		0.0094		0.0019		0.0037	L	0.0008		0.0033	L	0.0008	L	0.001
6	0.0002	L	0.004	L	0.0002	L	0.0004	L	0.0003	L	0.0008	L	0.0010	L	0.0008	L	0.001
7	0.0002	L	0.004		0.0335		0.0080		0.0177	L	0.0008		0.0078	L	0.0008	L	0.001
8	0.0002	L	0.004		0.0595		0.0164		0.0275	L	0.0008		0.0156	L	0.0008	L	0.001

YEAR=1983 SITE=EMERSON SPECIES=WALLEYE

---------- YEAR=83 SITE=BM004 SPECIES=17 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	53.2	1460	9	3	L	0.006	L	0.006	.	0.101	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004	.	0.1088	.	0.0112	.	0.0804	L	0.0008	.	0.0172	L	0.0008	L	0.001

APPENDIX 2 (b-1).

YEAR=1978 SITE=ST NORBERT SPECIES=SAUGER

---------- YEAR=78 SITE=BM005 SPECIES=10 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	A-1248	A-1254	A-1260	ALDRIN	CHLORDANE	DIELDRIN	ENDRIN
1	27.0	140	2	3	L 0.01	0.09	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
2	27.7	160	2	3	L 0.01	0.14	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
3	26.6	160	3	3	L 0.01	0.07	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
4	31.2	260	4	3	L 0.01	0.09	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
5	28.2	200	3	2	L 0.01	L 0.01	0.08	L 0.002	L 0.005	L 0.001	L 0.005 L
6	27.0	150	2	3	L 0.01	0.06	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
7	30.2	300	3	3	L 0.01	L 0.01	0.02	L 0.002	L 0.005	L 0.001	L 0.005 L
8	42.8	370	4	2	L 0.01	L 0.01	0.04	L 0.002	L 0.005	L 0.001	L 0.005 L
9	29.6	240	3	2	L 0.01	L 0.01	0.07	L 0.002	L 0.005	L 0.001	L 0.005 L
10	29.7	215	3	3	L 0.01	0.13	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L

OBS	LINDANE	METHOXYCHLOR	TOTAL-DDT	OP-DDE	PP-DDE	OP-DDD	PP-DDD	OP-DDT	PP-DDT
1	0.001 L	0.005	0.018	0.004	0.008 L	0.002	0.006	L 0.002	L 0.002
2	0.001 L	0.005	0.033	0.007	0.014 L	0.002	0.012	L 0.002	L 0.002
3	0.001 L	0.005	0.020	0.004	0.008 L	0.002	0.008	L 0.002	L 0.002
4	0.001 L	0.005	0.017	0.003	0.008 L	0.002	0.006	L 0.002	L 0.002
5	0.001 L	0.005	0.012	L 0.001	0.012 L	0.002	L 0.002	L 0.002	L 0.002
6	0.001 L	0.005	0.018	0.002	0.012 L	0.002	0.004	L 0.002	L 0.002
7	0.001 L	0.005	0.006	L 0.001	0.003 L	0.002	0.003	L 0.002	L 0.002
8	0.001 L	0.005	0.004	L 0.001	0.004 L	0.002	L 0.002	L 0.002	L 0.002
9	0.001 L	0.005	0.006	L 0.001	0.006 L	0.002	L 0.002	L 0.002	L 0.002
10	0.001 L	0.005	0.028	0.004	0.010 L	0.002	0.014	L 0.002	L 0.002

YEAR=1979 SITE=ST NORBERT SPECIES=SAUGER

---------- YEAR=79 SITE=BM005 SPECIES=10 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	A-1248	A-1254	A-1260	ALDRIN	CHLORDANE	DIELDRIN	ENDRIN
1	27.6	190	3	2	L 0.01	0.06	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
2	28.7	280	4	3	L 0.01	0.06	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
3	30.7	330	5	3	L 0.01	0.05	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
4	28.5	230	4	3	L 0.01	0.05	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
5	30.0	300	4	3	L 0.01	0.04	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
6	30.5	400	5	3	L 0.01	0.02	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
7	32.2	360	5	3	L 0.01	0.04	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
8	29.6	300	4	3	L 0.01	0.05	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
9	31.6	330	4	3	L 0.01	0.06	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
10	34.5	390	5	3	L 0.01	0.05	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L

OBS	LINDANE	METHOXYCHLOR	TOTAL-DDT	OP-DDE	PP-DDE	OP-DDD	PP-DDD	OP-DDT	PP-DDT
1	0.001 L	0.005	0.004	L 0.001	0.004 L	0.002	L 0.002	L 0.002	L 0.002
2	0.001 L	0.005	L 0.001	L 0.001	L 0.001	L 0.002	L 0.002	L 0.002	L 0.002
3	0.001 L	0.005	L 0.001	L 0.001	L 0.001	L 0.002	L 0.002	L 0.002	L 0.002
4	0.001 L	0.005	0.005	L 0.001	0.005 L	0.002	L 0.002	L 0.002	L 0.002
5	0.001 L	0.005	0.003	L 0.001	0.003 L	0.002	L 0.002	L 0.002	L 0.002
6	0.001 L	0.005	0.002	L 0.001	0.002 L	0.002	L 0.002	L 0.002	L 0.002
7	0.001 L	0.005	0.002	L 0.001	0.002 L	0.002	L 0.002	L 0.002	L 0.002
8	0.001 L	0.005	0.005	L 0.001	0.005 L	0.002	L 0.002	L 0.002	L 0.002
9	0.001 L	0.005	0.004	L 0.001	0.004 L	0.002	L 0.002	L 0.002	L 0.002
10	0.001 L	0.005	0.004	L 0.001	0.004 L	0.002	L 0.002	L 0.002	L 0.002

APPENDIX 2 (b-1) cont'd.

YEAR=1980 SITE=ST NORBERT SPECIES=SAUGER

YEAR=80 SITE=BM005 SPECIES=18

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	31.5	300	5	3	L	0.01		0.03	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
2	42.4	360	5	3	L	0.01		0.02	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
3	42.6	420	5	3	L	0.01		0.03	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
4	42.0	360	4	3	L	0.01	L	0.01	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
5	42.8	360	4	3	L	0.01	L	0.01		0.07	L	0.002	L	0.005	L	0.001	L	0.005	L
6	30.6	340	5	3	L	0.01		0.04	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
7	34.0	420	5	3	L	0.01		0.01	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
8	32.6	350	5	3	L	0.01		0.03	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
9	32.1	350	4	3	L	0.01		0.02	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
10	33.1	360	4	3	L	0.01		0.04	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.001	L	0.005		0.005	L	0.001		0.002	L	0.002		0.003	L	0.002	L	0.002
2	0.001	L	0.005		0.005	L	0.001		0.003	L	0.002		0.002	L	0.002	L	0.002
3	0.001	L	0.005		0.006	L	0.001		0.003	L	0.002		0.003	L	0.002	L	0.002
4	0.001	L	0.005	L	0.001	L	0.001	L	0.001	L	0.002	L	0.002	L	0.002	L	0.002
5	0.001	L	0.005	L	0.001	L	0.001	L	0.001	L	0.002	L	0.002	L	0.002	L	0.002
6	0.001	L	0.005		0.008	L	0.001		0.004	L	0.002		0.004	L	0.002	L	0.002
7	0.001	L	0.005		0.001	L	0.001		0.001	L	0.002	L	0.002	L	0.002	L	0.002
8	0.001	L	0.005		0.008	L	0.001		0.005	L	0.002		0.003	L	0.002	L	0.002
9	0.001	L	0.005		0.007	L	0.001		0.003	L	0.002		0.003	L	0.002	L	0.002
10	0.001	L	0.005		0.008	L	0.001		0.004	L	0.002		0.004	L	0.002	L	0.002

YEAR=1981 SITE=ST NORBERT SPECIES=SAUGER

YEAR=81 SITE=BM005 SPECIES=18

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	35.8	480	7	2	L	0.006	L	0.006		0.029	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
2	33.2	390	5	3	L	0.006	L	0.006		0.017	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
3	36.4	520	5	3	L	0.006	L	0.006		0.020	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
4	35.2	460	5	3	L	0.006	L	0.006		0.018	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
5	28.5	240	3	3	L	0.006	L	0.006		0.019	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
6	34.8	460	4	3	L	0.006	L	0.006		0.011	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
7	35.1	500	5	3	L	0.006	L	0.006		0.016	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
8	34.6	450	7	3	L	0.006	L	0.006		0.019	L	0.0002		0.0017	L	0.0004	L	0.0009	L
9	33.9	450	5	3	L	0.006	L	0.006	L	0.006	L	0.0002		0.0029	L	0.0004	L	0.0009	L
10	25.5	150	6	3	L	0.006	L	0.006		0.010	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004		0.0161		0.0026		0.0067	L	0.0008		0.0052	L	0.0008	L	0.001
2	0.0002	L	0.004		0.0102		0.0013		0.0038	L	0.0008		0.0041	L	0.0008	L	0.001
3	0.0002	L	0.004		0.0120		0.0026		0.0045	L	0.0008		0.0049	L	0.0008	L	0.001
4	0.0002	L	0.004		0.0120		0.0026		0.0047	L	0.0008		0.0047	L	0.0008	L	0.001
5	0.0002	L	0.004		0.0121		0.0020		0.0050	L	0.0008		0.0051	L	0.0008	L	0.001
6	0.0002	L	0.004		0.0075		0.0014		0.0029	L	0.0008		0.0032	L	0.0008	L	0.001
7	0.0002	L	0.004		0.0094		0.0014		0.0040	L	0.0008		0.0040	L	0.0008	L	0.001
8	0.0002	L	0.004		0.0116		0.0010		0.0043	L	0.0008		0.0063	L	0.0008	L	0.001
9	0.0002	L	0.004		0.0090		0.0017		0.0073	L	0.0008	L	0.0013	L	0.0008	L	0.001
10	0.0002	L	0.004		0.0035		0.0007		0.0028	L	0.0008	L	0.0013	L	0.0008	L	0.001

APPENDIX 2 (b-1) cont'd. YEAR=1982 SITE=ST NORBERT SPECIES=SAUGER

YEAR=82 SITE=BM005 SPECIES=18

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	15.7	20	2	1	L	0.006	L	0.006		0.064	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
2	26.2	240	6	2	L	0.006	L	0.006		0.029	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
3	23.7	120	4	3	L	0.006	L	0.006		0.028	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
4	36.0	540	4	3	L	0.006	L	0.006		0.014	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
5	39.8	740	7	3	L	0.006	L	0.006		0.016	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
6	31.7	420	3	2	L	0.006	L	0.006		0.019	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
7	29.8	300	3	3	L	0.006		0.006		0.020	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
8	34.1	440	8	2	L	0.006	L	0.006		0.029	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
9	32.6	410	4	3	L	0.006	L	0.006		0.010	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
10	30.4	320	3	3	L	0.006	L	0.006		0.016	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004		0.0269		0.0079		0.0190	L	0.0008	L	0.0010	L	0.0008	L	0.001
2	0.0002	L	0.004		0.0215		0.0062		0.0082	L	0.0008		0.0071	L	0.0008	L	0.001
3	0.0002	L	0.004		0.0162		0.0047		0.0064	L	0.0008		0.0051	L	0.0008	L	0.001
4	0.0002	L	0.004		0.0110		0.0033		0.0036	L	0.0008		0.0041	L	0.0008	L	0.001
5	0.0002	L	0.004		0.0090		0.0016		0.0035	L	0.0008		0.0039	L	0.0008	L	0.001
6	0.0002	L	0.004		0.0101		0.0027		0.0036	L	0.0008		0.0038	L	0.0008	L	0.001
7	0.0002	L	0.004		0.0125		0.0031		0.0046	L	0.0008		0.0048	L	0.0008	L	0.001
8	0.0002	L	0.004		0.0140		0.0047		0.0056	L	0.0008		0.0037	L	0.0008	L	0.001
9	0.0002	L	0.004		0.0064		0.0017		0.0023	L	0.0008		0.0024	L	0.0008	L	0.001
10	0.0002	L	0.004		0.0130		0.0036		0.0046	L	0.0008		0.0048	L	0.0008	L	0.001

YEAR=1983 SITE=ST NORBERT SPECIES=SAUGER

YEAR=83 SITE=BM005 SPECIES=18

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	33.5	420	4	3	L	0.006	L	0.006	.	0.009	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
2	35.0	500	3	3	L	0.006	L	0.006	.	0.012	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
3	35.3	470	4	3	L	0.006	L	0.006	.	0.010	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
4	33.7	410	4	3	L	0.006	L	0.006	.	0.025	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
5	29.5	310	4	2	L	0.006	L	0.006	.	0.020	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
6	36.5	500	4	3	L	0.006	L	0.006	.	0.023	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
7	31.6	360	3	3	L	0.006	L	0.006	.	0.012	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
8	33.1	410	3	3	L	0.006	L	0.006	.	0.015	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
9	31.0	340	4	3	L	0.006	L	0.006	.	0.020	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
10	33.3	470	4	3	L	0.006	L	0.006	.	0.018	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004	.	0.0047	.	0.0006	.	0.0024	L	0.001	.	0.0017	L	0.0008	L	0.001
2	0.0002	L	0.004	.	0.0063	.	0.0009	.	0.0033	L	0.001	.	0.0021	L	0.0008	L	0.001
3	0.0002	L	0.004	.	0.0048	.	0.0007	.	0.0025	L	0.001	.	0.0016	L	0.0008	L	0.001
4	0.0002	L	0.004	.	0.0131	.	0.0019	.	0.0065	L	0.001	.	0.0047	L	0.0008	L	0.001
5	0.0002	L	0.004	.	0.0073	.	0.0009	.	0.0041	L	0.001	.	0.0023	L	0.0008	L	0.001
6	0.0002	L	0.004	.	0.0114	.	0.0016	.	0.0057	L	0.001	.	0.0041	L	0.0008	L	0.001
7	0.0002	L	0.004	.	0.0080	.	0.0011	.	0.0045	L	0.001	.	0.0024	L	0.0008	L	0.001
8	0.0002	L	0.004	.	0.0066	.	0.0010	.	0.0036	L	0.001	.	0.0020	L	0.0008	L	0.001
9	0.0002	L	0.004	.	0.0097	.	0.0013	.	0.0049	L	0.001	.	0.0035	L	0.0008	L	0.001
10	0.0002	L	0.004	.	0.0092	.	0.0014	.	0.0048	L	0.001	.	0.0030	L	0.0008	L	0.001

APPENDIX 2 (b-2).

YEAR=1978 SITE=ST NORBERT SPECIES=GOLDEYE

---------- YEAR=78 SITE=BM005 SPECIES=27 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	32.9	400	8	2	L	0.01		0.07	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
2	28.4	280	6	2	L	0.01		0.26	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
3	27.9	220	7	2	L	0.01		0.25	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
4	29.7	300	8	2	L	0.01		0.64	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
5	23.0	160	5	1	L	0.01		0.30	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
6	21.0	150	5	2	L	0.01		0.37	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
7	24.7	190	5	2	L	0.01		0.14	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
8	30.5	340	7	3	L	0.01		1.35	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
9	27.0	220	5	2	L	0.01		0.35	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
10	26.0	220	5	2	L	0.01		0.41	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.001	L	0.005		0.021		0.004		0.017	L	0.002	L	0.002	L	0.002	L	0.002
2	0.001	L	0.005		0.070		0.011		0.050	L	0.002		0.009	L	0.002	L	0.002
3	0.001	L	0.005		0.050		0.010		0.020	L	0.002		0.020	L	0.002	L	0.002
4	0.001	L	0.005		0.229		0.050		0.119	L	0.002		0.060	L	0.002	L	0.002
5	0.001	L	0.005		0.050		0.009		0.024	L	0.002		0.017	L	0.002	L	0.002
6	0.001	L	0.005		0.106		0.026		0.046	L	0.002		0.034	L	0.002	L	0.002
7	0.001	L	0.005		0.029		0.004		0.015	L	0.002		0.010	L	0.002	L	0.002
8	0.001	L	0.005		0.330		0.080		0.120	L	0.002		0.130	L	0.002	L	0.002
9	0.001	L	0.005		0.053	L	0.001		0.026	L	0.002		0.027	L	0.002	L	0.002
10	0.001	L	0.005		0.126	L	0.001		0.059	L	0.002		0.055	L	0.002		0.012

YEAR=1979 SITE=ST NORBERT SPECIES=GOLDEYE

---------- YEAR=79 SITE=BM005 SPECIES=27 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	39.5	300	9	2	L	0.01		0.10	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
2	21.9	100	6	1	L	0.01		0.14	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
3	23.5	150	6	1	L	0.01		0.13	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
4	21.5	110	6	1	L	0.01		0.10	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
5	20.8	100	5	1	L	0.01		0.13	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
6	19.2	70	4	1	L	0.01		0.16	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
7	17.8	50	4	1	L	0.01		0.17	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
8	29.8	360	9	3	L	0.01		0.11	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
9	32.9	440	10	3	L	0.01		0.15	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
10	29.7	340	8	2	L	0.01		0.07	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.001	L	0.005		0.020	L	0.001		0.020	L	0.002	L	0.002	L	0.002	L	0.002
2	0.001	L	0.005		0.013	L	0.001		0.013	L	0.002	L	0.002	L	0.002	L	0.002
3	0.001	L	0.005		0.013	L	0.001		0.013	L	0.002	L	0.002	L	0.002	L	0.002
4	0.001	L	0.005		0.010	L	0.001		0.010	L	0.002	L	0.002	L	0.002	L	0.002
5	0.001	L	0.005		0.029	L	0.001		0.020	L	0.002		0.009	L	0.002	L	0.002
6	0.001	L	0.005		0.021	L	0.001		0.021	L	0.002	L	0.002	L	0.002	L	0.002
7	0.001	L	0.005		0.046	L	0.001		0.029	L	0.002		0.017	L	0.002	L	0.002
8	0.001	L	0.005		0.084		0.011		0.036	L	0.002		0.037	L	0.002	L	0.002
9	0.001	L	0.005		0.121		0.015		0.046	L	0.002		0.060	L	0.002	L	0.002
10	0.001	L	0.005		0.051	L	0.001		0.028	L	0.002		0.023	L	0.002	L	0.002

APPENDIX 2 (b-2) cont'd.

YEAR=1980 SITE=ST NORBERT SPECIES=GOLDEYE

YEAR=80 SITE=BM005 SPECIES=27

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	29.0	250	4	3	L	0.01		0.13	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
2	25.3	190	4	2	L	0.01		0.06	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
3	28.9	360	4	2	L	0.01		0.12	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
4	25.7	180	2	3	L	0.01		0.05	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
5	23.0	170	3	3	L	0.01		0.07	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
6	33.5	440	5	3	L	0.01		0.07	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
7	28.3	280	5	2	L	0.01		0.10	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
8	24.3	210	4	2	L	0.01		0.04	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
9	33.4	480	5	2	L	0.01		0.10	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
10	25.2	200	3	2	L	0.01		0.08	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.001	L	0.005		0.047		0.012		0.020	L	0.002		0.015	L	0.002	L	0.002
2	0.001	L	0.005		0.023		0.007		0.010	L	0.002		0.006	L	0.002	L	0.002
3	0.001	L	0.005		0.120		0.017		0.040	L	0.002		0.063	L	0.002	L	0.002
4	0.001	L	0.005		0.019		0.002		0.009	L	0.002		0.008	L	0.002	L	0.002
5	0.001	L	0.005		0.032		0.008		0.016	L	0.002		0.008	L	0.002	L	0.002
6	0.001	L	0.005		0.029		0.007		0.010	L	0.002		0.012	L	0.002	L	0.002
7	0.001	L	0.005		0.042		0.010		0.012	L	0.002		0.020	L	0.002	L	0.002
8	0.001	L	0.005		0.017		0.002		0.009	L	0.002		0.006	L	0.002	L	0.002
9	0.001	L	0.005		0.039		0.011		0.012	L	0.002		0.016	L	0.002	L	0.002
10	0.001	L	0.005		0.030		0.008		0.014	L	0.002		0.008	L	0.002	L	0.002

YEAR=1981 SITE=ST NORBERT SPECIES=GOLDEYE

YEAR=81 SITE=BM005 SPECIES=27

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	32.2	400	6	3	L	0.006	L	0.006	L	0.006	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
2	30.0	300	5	2	L	0.006		0.184	L	0.006	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
3	29.9	340	5	2	L	0.006		0.099	L	0.006	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
4	37.0	550	7	3	L	0.006	L	0.006		0.024	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
5	29.4	350	5	3	L	0.006		0.222	L	0.006	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
6	27.6	220	4	2	L	0.006		0.044	L	0.006	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
7	27.8	240	5	3	L	0.006	L	0.006		0.033	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
8	29.3	250	5	3	L	0.006	L	0.006		0.081	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
9	28.6	370	6	3	L	0.006	L	0.006		0.068	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
10	30.5	400	6	3	L	0.006	L	0.006		0.201	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004		2.6400	L	0.0004	L	0.0003	L	0.0008	L	0.0013	L	0.0008		2.6400
2	0.0002	L	0.004		0.1197		0.0277		0.0409	L	0.0008		0.0511	L	0.0008	L	0.0010
3	0.0002	L	0.004		0.0918		0.0152		0.0279	L	0.0008		0.0239	L	0.0008		0.0248
4	0.0002	L	0.004		0.0209		0.0029		0.0056	L	0.0008		0.0029	L	0.0008		0.0095
5	0.0002	L	0.004		0.3069		0.0453		0.0939	L	0.0008		0.1292	L	0.0008		0.0330
6	0.0002	L	0.004		0.0323		0.0081		0.0137	L	0.0008		0.0051	L	0.0008		0.0054
7	0.0002	L	0.004		0.0167		0.0038		0.0080	L	0.0008		0.0049	L	0.0008	L	0.0010
8	0.0002	L	0.004		0.0390		0.0095		0.0198	L	0.0008		0.0097	L	0.0008	L	0.0010
9	0.0002	L	0.004		0.0413		0.0096		0.0235	L	0.0008		0.0082	L	0.0008	L	0.0010
10	0.0002	L	0.004		0.2811		0.0316		0.0835	L	0.0008		0.0825	L	0.0008		0.0735

APPENDIX 2 (b-2) cont'd.

YEAR=1982 SITE=ST NORBERT SPECIES=GOLDEYE

---------- YEAR=82 SITE=BM005 SPECIES=27 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	31.0	340	5	2	L	0.006	L	0.006		0.262	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
2	31.0	340	3	3	L	0.006	L	0.006		0.213	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
3	26.4	220	3	3	L	0.006	L	0.006		0.179	L	0.0002		0.0033	L	0.0004	L	0.0009	L
4	30.5	320	5	3	L	0.006	L	0.006		0.110	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
5	29.4	240	3	3	L	0.006	L	0.006		0.179	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
6	27.6	260	3	2	L	0.006	L	0.006		0.092	L	0.0002		0.0049	L	0.0004	L	0.0009	L
7	26.8	220	3	2	L	0.006	L	0.006		0.111	L	0.0002		0.0084	L	0.0004	L	0.0009	L
8	27.7	240	3	2	L	0.006	L	0.006		0.069	L	0.0002		0.0034	L	0.0004	L	0.0009	L
9	26.8	280	3	2	L	0.006	L	0.006		0.060	L	0.0002		0.0033	L	0.0004	L	0.0009	L
10	26.5	220	3	3	L	0.006	L	0.006		0.072	L	0.0002		0.0023	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004		0.1481		0.0382		0.0759	L	0.0008		0.0340	L	0.0008	L	0.001
2	0.0002	L	0.004		0.1342		0.0302		0.0611	L	0.0008		0.0429	L	0.0008	L	0.001
3	0.0002	L	0.004		0.0905		0.0061		0.0423	L	0.0008		0.0421	L	0.0008	L	0.001
4	0.0002	L	0.004		0.0635		0.0167		0.0326	L	0.0008		0.0142	L	0.0008	L	0.001
5	0.0002	L	0.004		0.1460		0.0347		0.0645	L	0.0008		0.0468	L	0.0008	L	0.001
6	0.0002	L	0.004		0.0786		0.0039		0.0381	L	0.0008		0.0366	L	0.0008	L	0.001
7	0.0002	L	0.004		0.0943		0.0115		0.0449	L	0.0008		0.0379	L	0.0008	L	0.001
8	0.0002	L	0.004		0.0436		0.0031		0.0196	L	0.0008		0.0209	L	0.0008	L	0.001
9	0.0002	L	0.004		0.0498		0.0047		0.0213	L	0.0008		0.0238	L	0.0008	L	0.001
10	0.0002	L	0.004		0.0522		0.0038		0.0246	L	0.0008		0.0235	L	0.0008	L	0.001

YEAR=1983 SITE=ST NORBERT SPECIES=GOLDEYE

---------- YEAR=83 SITE=BM005 SPECIES=27 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	25.7	200	4	2	L	0.006	L	0.006	.	0.085	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
2	28.6	260	3	3	L	0.006	L	0.006	.	0.021	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
3	28.5	270	5	2	L	0.006	L	0.006	.	0.060	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
4	28.6	270	4	2	L	0.006	L	0.006	.	0.036	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
5	28.0	250	3	2	L	0.006	L	0.006	.	0.050	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
6	27.5	260	4	2	L	0.006	L	0.006	.	0.037	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
7	26.2	200	3	2	L	0.006	L	0.006	.	0.019	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
8	31.3	280	4	3	L	0.006	L	0.006	.	0.062	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
9	28.1	300	4	2	L	0.006	L	0.006	.	0.044	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
10	28.0	220	3	2	L	0.006	L	0.006	.	0.056	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004	.	0.0510	.	0.0093	.	0.0283	L	0.001	.	0.0134	L	0.0008	L	0.001
2	0.0002	L	0.004	.	0.0124	.	0.0021	.	0.0068	L	0.001	.	0.0035	L	0.0008	L	0.001
3	0.0002	L	0.004	.	0.0607	.	0.0135	.	0.0315	L	0.001	.	0.0157	L	0.0008	L	0.001
4	0.0002	L	0.004	.	0.0196	.	0.0034	.	0.0107	L	0.001	.	0.0055	L	0.0008	L	0.001
5	0.0002	L	0.004	.	0.0455	.	0.0087	.	0.0246	L	0.001	.	0.0122	L	0.0008	L	0.001
6	0.0002	L	0.004	.	0.0419	.	0.0086	.	0.0235	L	0.001	.	0.0098	L	0.0008	L	0.001
7	0.0002	L	0.004	.	0.0129	.	0.0032	.	0.0072	L	0.001	.	0.0025	L	0.0008	L	0.001
8	0.0002	L	0.004	.	0.0826	.	0.0148	.	0.0678	L	0.001	L	0.0010	L	0.0008	L	0.001
9	0.0002	L	0.004	.	0.0457	.	0.0100	.	0.0250	L	0.001	.	0.0137	L	0.0008	L	0.001
10	0.0002	L	0.004	.	0.0494	.	0.0123	.	0.0259	L	0.001	.	0.0112	L	0.0008	L	0.001

APPENDIX 2 (b-3).

YEAR=1978 SITE=ST NORBERT SPECIES=COMMON SUCKER

---------- YEAR=78 SITE=BM005 SPECIES=21 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	***** A-1248	***** A-1254	***** A-1260	***** ALDRIN	***** CHLORDANE	***** DIELDRIN	***** ENDRIN
1	37.9	760	5	2	L 0.01	0.04	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
2	42.3	1020	6	2	L 0.01	0.18	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
3	42.0	1080	6	2	L 0.01	0.06	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
4	42.6	1010	6	2	L 0.01	0.05	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
5	37.5	880	4	2	L 0.01	0.66	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
6	39.3	930	4	2	L 0.01	0.06	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
7	39.0	900	6	2	L 0.01	0.24	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
8	40.7	980	6	2	L 0.01	L 0.01	0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
9	38.6	920	5	2	L 0.01	0.09	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
10	41.5	1060	7	2	L 0.01	0.12	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.001	L	0.005		0.009	L	0.001		0.004	L	0.002		0.002	L	0.002		0.003
2	0.001	L	0.005		0.056		0.008		0.015	L	0.002		0.033	L	0.002	L	0.002
3	0.001	L	0.005		0.048		0.004		0.004	L	0.002		0.010	L	0.002		0.030
4	0.001	L	0.005		0.015		0.002		0.004	L	0.002		0.009	L	0.002	L	0.002
5	0.001	L	0.005		0.170		0.027		0.045	L	0.002		0.098	L	0.002	L	0.002
6	0.001	L	0.005		0.019		0.004		0.005	L	0.002		0.010	L	0.002	L	0.002
7	0.001	L	0.005		0.049		0.013		0.019	L	0.002		0.017	L	0.002	L	0.002
8	0.001	L	0.005		0.015		0.003		0.008	L	0.002		0.004	L	0.002	L	0.002
9	0.001	L	0.005		0.012		0.004		0.004	L	0.002		0.004	L	0.002	L	0.002
10	0.001	L	0.005		0.011	L	0.001		0.007	L	0.002		0.004	L	0.002	L	0.002

YEAR=1979 SITE=ST NORBERT SPECIES=COMMON SUCKER

---------- YEAR=79 SITE=BM005 SPECIES=21 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	***** A-1248	***** A-1254	***** A-1260	***** ALDRIN	***** CHLORDANE	***** DIELDRIN	***** ENDRIN
1	39.4	900	4	2	L 0.01	0.28	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
2	42.9	1200	4	3	L 0.01	0.05	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
3	35.5	740	3	3	L 0.01	0.11	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
4	36.6	820	3	2	L 0.01	0.04	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
5	32.0	910	4	3	L 0.01	0.07	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
6	39.9	950	4	2	L 0.01	0.96	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
7	40.3	940	4	2	L 0.01	0.13	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
8	40.2	1000	4	2	L 0.01	0.43	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
9	41.9	1090	4	3	L 0.01	0.48	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.001	L	0.005		0.050		0.010		0.020	L	0.002		0.020	L	0.002	L	0.002
2	0.001	L	0.005		0.005	L	0.001		0.005	L	0.002	L	0.002	L	0.002	L	0.002
3	0.001	L	0.005		0.028		0.005		0.010	L	0.002		0.013	L	0.002	L	0.002
4	0.001	L	0.005		0.002	L	0.001		0.002	L	0.002	L	0.002	L	0.002	L	0.002
5	0.001	L	0.005		0.008	L	0.001		0.008	L	0.002	L	0.002	L	0.002	L	0.002
6	0.001	L	0.005		0.120	L	0.001		0.080	L	0.002		0.040	L	0.002	L	0.002
7	0.001	L	0.005		0.031		0.008		0.016	L	0.002		0.007	L	0.002	L	0.002
8	0.001	L	0.005		0.070	L	0.001		0.050	L	0.002		0.020	L	0.002	L	0.002
9	0.001	L	0.005		0.024	L	0.001		0.008	L	0.002		0.016	L	0.002	L	0.002

APPENDIX 2 (b-3) cont'd.

YEAR=1980 SITE=ST NORBERT SPECIES=COMMON SUCKER

---------- YEAR=80 SITE=BM005 SPECIES=21 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	39.2	960	3	3	L	0.01		0.05	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
2	40.1	1000	4	3	L	0.01		0.03	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
3	37.9	810	2	3	L	0.01	L	0.01	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
4	40.4	1010	2	3	L	0.01	L	0.01	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
5	34.6	620	2	2	L	0.01	L	0.01	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
6	36.4	750	2	2	L	0.01	L	0.01	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
7	41.7	1060	3	2	L	0.01		0.04	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
8	40.9	960	3	3	L	0.01		0.07	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
9	42.4	1220	3	3	L	0.01		0.07	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
10	37.2	870	3	2	L	0.01		0.05	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.001	L	0.005		0.013	L	0.001		0.005	L	0.002		0.008	L	0.002	L	0.002
2	0.001	L	0.005		0.011	L	0.001		0.005	L	0.002		0.006	L	0.002	L	0.002
3	0.001	L	0.005		0.003	L	0.001		0.003	L	0.002	L	0.002	L	0.002	L	0.002
4	0.001	L	0.005		0.003	L	0.001		0.003	L	0.002	L	0.002	L	0.002	L	0.002
5	0.001	L	0.005	L	0.001	L	0.001	L	0.001	L	0.002	L	0.002	L	0.002	L	0.002
6	0.001	L	0.005	L	0.001	L	0.001	L	0.001	L	0.002	L	0.002	L	0.002	L	0.002
7	0.001	L	0.005		0.013		0.002		0.005	L	0.002		0.006	L	0.002	L	0.002
8	0.001	L	0.005		0.026		0.002		0.009	L	0.002		0.015	L	0.002	L	0.002
9	0.001	L	0.005		0.020	L	0.001		0.008	L	0.002		0.012	L	0.002	L	0.002
10	0.001	L	0.005		0.011	L	0.001		0.005	L	0.002		0.016	L	0.002	L	0.002

YEAR=1981 SITE=ST NORBERT SPECIES=COMMON SUCKER

---------- YEAR=81 SITE=BM005 SPECIES=21 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	38.6	900	2	3	L	0.006	L	0.006	L	0.006	L	0.0002		0.0219	L	0.0004	L	0.0009	L
2	34.2	800	3	2	L	0.006	L	0.006	L	0.006	L	0.0002		0.0494	L	0.0004	L	0.0009	L
3	37.0	850	4	2	L	0.006	L	0.006		0.140	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
4	38.2	740	3	2	L	0.006	L	0.006		0.096	L	0.0002		0.0150	L	0.0004	L	0.0009	L
5	39.0	1040	4	2	L	0.006	L	0.006		0.064	L	0.0002		0.0105	L	0.0004	L	0.0009	L
6	38.4	840	3	2	L	0.006	L	0.006	L	0.006	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
7	37.8	740	2	2	L	0.006	L	0.006		0.071	L	0.0002		0.0161	L	0.0004	L	0.0009	L
8	38.1	900	3	2	L	0.006	L	0.006		0.062	L	0.0002		0.0055	L	0.0004	L	0.0009	L
9	37.8	780	4	3	L	0.006	L	0.006	L	0.006	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
10	38.2	880	3	2	L	0.006	L	0.006		0.057	L	0.0002		0.0024	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004		0.0438		0.0138		0.0063	L	0.0008		0.0126	L	0.0008		0.0111
2	0.0002	L	0.004		0.1561		0.0397		0.0340	L	0.0008		0.0575	L	0.0008		0.0249
3	0.0002	L	0.004		0.0807		0.0117		0.0060	L	0.0008		0.0468	L	0.0008		0.0162
4	0.0002	L	0.004		0.0716		0.0109		0.0206	L	0.0008		0.0211	L	0.0008		0.0190
5	0.0002	L	0.004		0.0441		0.0145		0.0137	L	0.0008		0.0159	L	0.0008	L	0.0010
6	0.0002	L	0.004		0.0334	L	0.0004		0.0111	L	0.0008		0.0223	L	0.0008	L	0.0010
7	0.0002	L	0.004		0.0397		0.0117		0.0085	L	0.0008		0.0122	L	0.0008		0.0073
8	0.0002	L	0.004		0.0537		0.0071		0.0069	L	0.0008		0.0144	L	0.0008		0.0253
9	0.0002	L	0.004		0.0366		0.0021		0.0028	L	0.0008		0.0061	L	0.0008		0.0301
10	0.0002	L	0.004		0.0353		0.0072		0.0069	L	0.0008		0.0106	L	0.0008		0.0106

APPENDIX 2 (b-3) cont'd. YEAR=1982 SITE=ST NORBERT SPECIES=COMMON SUCKER

---------- YEAR=82 SITE=BM005 SPECIES=21 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	36.7	700	2	3	L	0.006	L	0.006		0.009	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
2	36.5	700	5	3	L	0.006	L	0.006		0.011	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
3	35.8	640	1	2	L	0.006	L	0.006		0.035	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
4	36.5	700	1	2	L	0.006	L	0.006		0.040	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
5	40.0	988	2	2	L	0.006	L	0.006		0.031	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
6	34.6	600	3	2	L	0.006	L	0.006		0.010	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
7	35.7	660	3	3	L	0.006	L	0.006		0.012	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
8	38.4	720	2	3	L	0.006	L	0.006		0.016	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
9	39.5	960	2	3	L	0.006	L	0.006		0.023	L	0.0002		0.0031	L	0.0004	L	0.0009	L
10	34.6	710	1	2	L	0.006	L	0.006		0.026	L	0.0002		0.0022	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004		0.0080		0.0019		0.0026	L	0.0008		0.0035	L	0.0008	L	0.001
2	0.0002	L	0.004		0.0139		0.0034		0.0068	L	0.0008		0.0037	L	0.0008	L	0.001
3	0.0002	L	0.004		0.0355		0.0114		0.0107	L	0.0008		0.0134	L	0.0008	L	0.001
4	0.0002	L	0.004		0.0374		0.0089		0.0132	L	0.0008		0.0153	L	0.0008	L	0.001
5	0.0002	L	0.004		0.0228		0.0061		0.0073	L	0.0008		0.0094	L	0.0008	L	0.001
6	0.0002	L	0.004		0.0098		0.0025		0.0036	L	0.0008		0.0037	L	0.0008	L	0.001
7	0.0002	L	0.004		0.0103		0.0023		0.0057	L	0.0008		0.0023	L	0.0008	L	0.001
8	0.0002	L	0.004		0.0152		0.0023		0.0038	L	0.0008		0.0091	L	0.0008	L	0.001
9	0.0002	L	0.004		0.0194		0.0026		0.0063	L	0.0008		0.0105	L	0.0008	L	0.001
10	0.0002	L	0.004		0.0188		0.0021		0.0060	L	0.0008		0.0107	L	0.0008	L	0.001

APPENDIX 2 (c-1).

YEAR=1978 SITE=SELKIRK SPECIES=SAUGER

---------- YEAR=78 SITE=BM006 SPECIES=18 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	27.4	200	2	2	L	0.01		0.03	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
2	28.3	210	3	2	L	0.01		0.10	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
3	27.2	200	3	2	L	0.01		0.08	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
4	25.5	150	2	2	L	0.01		0.10	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
5	22.3	100	2	2	L	0.01		0.07	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
6	30.1	260	3	2	L	0.01		0.08	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
7	25.7	170	3	2	L	0.01		0.06	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
8	31.1	310	3	2	L	0.01		0.07	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
9	22.0	100	2	2	L	0.01		0.06	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
10	22.4	190	3	2	L	0.01		0.13	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.001	L	0.005		0.007	L	0.001		0.003	L	0.002		0.004	L	0.002	L	0.002
2	0.001	L	0.005		0.017		0.003		0.008	L	0.002		0.006	L	0.002	L	0.002
3	0.001	L	0.005		0.015		0.003		0.006	L	0.002		0.006	L	0.002	L	0.002
4	0.001	L	0.005		0.021		0.005		0.008	L	0.002		0.008	L	0.002	L	0.002
5	0.001	L	0.005		0.014		0.003		0.005	L	0.002		0.006	L	0.002	L	0.002
6	0.001	L	0.005		0.011		0.002		0.004	L	0.002		0.005	L	0.002	L	0.002
7	0.001	L	0.005		0.015		0.002		0.006	L	0.002		0.007	L	0.002	L	0.002
8	0.001	L	0.005		0.014		0.002		0.006	L	0.002		0.006	L	0.002	L	0.002
9	0.001	L	0.005		0.008		0.002		0.003	L	0.002		0.003	L	0.002	L	0.002
10	0.001	L	0.005		0.029		0.005		0.010	L	0.002		0.014	L	0.002	L	0.002

YEAR=1979 SITE=SELKIRK SPECIES=SAUGER

---------- YEAR=79 SITE=BM006 SPECIES=18 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	30.7	260	5	3	L	0.01		0.02	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
2	27.5	200	4	3	L	0.01		0.04	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
3	29.8	240	5	2	L	0.01		0.08	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
4	26.5	180	4	2	L	0.01		0.05	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
5	27.5	200	4	2	L	0.01		0.06	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
6	24.3	130	3	2	L	0.01		0.07	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
7	25.1	150	4	2	L	0.01		0.07	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
8	28.4	220	4	2	L	0.01		0.10	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
9	25.5	140	4	2	L	0.01		0.07	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
10	30.4	250	4	3	L	0.01		0.09	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.001	L	0.005		0.012	L	0.001		0.006	L	0.001		0.006	L	0.002	L	0.002
2	0.001	L	0.005		0.006	L	0.001		0.003	L	0.001		0.003	L	0.002	L	0.002
3	0.001	L	0.005		0.006	L	0.001		0.004	L	0.001		0.002	L	0.002	L	0.002
4	0.001	L	0.005		0.025		0.004		0.010	L	0.001		0.011	L	0.002	L	0.002
5	0.001	L	0.005		0.023		0.003		0.009	L	0.001		0.011	L	0.002	L	0.002
6	0.001	L	0.005		0.007		0.001		0.003	L	0.001		0.003	L	0.002	L	0.002
7	0.001	L	0.005		0.014		0.002		0.006	L	0.001		0.006	L	0.002	L	0.002
8	0.001	L	0.005		0.012		0.002		0.006	L	0.001		0.004	L	0.002	L	0.002
9	0.001	L	0.005		0.006	L	0.001		0.003	L	0.001		0.003	L	0.002	L	0.002
10	0.001	L	0.005		0.036		0.005		0.010	L	0.001		0.011	L	0.002		0.002

APPENDIX 2 (c-1) cont'd.

YEAR=1980 SITE=SELKIRK SPECIES=SAUGER

YEAR=80 SITE=BM006 SPECIES=18

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	28.3	230	4	2	L	0.01		0.02	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
2	33.5	360	5	3	L	0.01		0.04	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
3	31.6	310	5	2	L	0.01		0.05	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
4	29.4	240	4	3	L	0.01		0.03	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
5	30.2	290	5	2	L	0.01		0.08	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
6	30.7	290	4	2	L	0.01		0.02	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
7	27.4	220	4	3	L	0.01		0.04	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
8	31.2	300	5	2	L	0.01		0.03	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
9	29.1	240	6	2	L	0.01		0.12	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
10	31.4	310	5	3	L	0.01		0.06	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.001	L	0.005		0.022		0.005		0.009	L	0.002		0.008	L	0.002	L	0.002
2	0.001	L	0.005		0.017		0.004		0.006	L	0.002		0.007	L	0.002	L	0.002
3	0.001	L	0.005		0.018		0.003		0.008	L	0.002		0.007	L	0.002	L	0.002
4	0.001	L	0.005		0.013		0.003		0.005	L	0.002		0.005	L	0.002	L	0.002
5	0.001	L	0.005		0.027		0.006		0.011	L	0.002		0.010	L	0.002	L	0.002
6	0.001	L	0.005		0.010		0.002		0.004	L	0.002		0.004	L	0.002	L	0.002
7	0.001	L	0.005		0.016		0.003		0.006	L	0.002		0.007	L	0.002	L	0.002
8	0.001	L	0.005		0.010		0.002		0.004	L	0.002		0.004	L	0.002	L	0.002
9	0.001	L	0.005		0.049		0.012		0.021	L	0.002		0.016	L	0.002	L	0.002
10	0.001	L	0.005		0.021		0.005		0.009	L	0.002		0.007	L	0.002	L	0.002

YEAR=1981 SITE=SELKIRK SPECIES=SAUGER

YEAR=81 SITE=BM006 SPECIES=18

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	25.6	160	3	2	L	0.006		0.025	L	0.006	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
2	37.4	670	5	3	L	0.006		0.028	L	0.006	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
3	36.5	360	8	2	L	0.006	L	0.006		0.045	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
4	39.5	640	7	3	L	0.006		0.020	L	0.006	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
5	36.2	500	6	3	L	0.006		0.019	L	0.006	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
6	35.7	560	7	3	L	0.006		0.024	L	0.006	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
7	33.3	390	6	3	L	0.006		0.030	L	0.006	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
8	30.5	320	5	2	L	0.006	L	0.006		0.018	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
9	30.8	350	6	2	L	0.006	L	0.006		0.019	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
10	30.2	300	9	2	L	0.006	L	0.006		0.157	L	0.0002		0.0035	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004		0.0104		0.0020		0.0039	L	0.0008		0.0045	L	0.0008	L	0.001
2	0.0002	L	0.004		0.0075		0.0016		0.0028	L	0.0008		0.0031	L	0.0008	L	0.001
3	0.0002	L	0.004		0.0170		0.0024		0.0079	L	0.0008		0.0067	L	0.0008	L	0.001
4	0.0002	L	0.004		0.0058		0.0007		0.0026	L	0.0008		0.0025	L	0.0008	L	0.001
5	0.0002	L	0.004		0.0075		0.0012		0.0032	L	0.0008		0.0031	L	0.0008	L	0.001
6	0.0002	L	0.004		0.0092		0.0012		0.0037	L	0.0008		0.0043	L	0.0008	L	0.001
7	0.0002	L	0.004		0.0108		0.0028		0.0039	L	0.0008		0.0041	L	0.0008	L	0.001
8	0.0002	L	0.004		0.0092		0.0027		0.0032	L	0.0008		0.0033	L	0.0008	L	0.001
9	0.0002	L	0.004		0.0087		0.0024		0.0033	L	0.0008		0.0039	L	0.0008	L	0.001
10	0.0002	L	0.004		0.0467		0.0154		0.0208	L	0.0008		0.0114	L	0.0008	L	0.001

APPENDIX 2 (c-1) cont'd.

YEAR=1982 SITE=SELKIRK SPECIES=SAUGER

YEAR=82 SITE=BM006 SPECIES=18

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	28.1	220	3	3	L	0.006	L	0.006		0.016	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
2	27.0	200	3	3	L	0.006	L	0.006	L	0.006	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
3	36.2	580	6	3	L	0.006	L	0.006		0.010	L	0.0002		0.0008	L	0.0004	L	0.0009	L
4	27.5	240	3	3	L	0.006	L	0.006		0.010	L	0.0002		0.0005	L	0.0004	L	0.0009	L
5	24.5	160	3	3	L	0.006	L	0.006	L	0.006	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
6	28.2	220	3	2	L	0.006	L	0.006	L	0.006	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
7	30.3	260	4	2	L	0.006	L	0.006		0.025	L	0.0002		0.0012	L	0.0004	L	0.0009	L
8	27.4	200	4	2	L	0.006	L	0.006		0.017	L	0.0002		0.0007	L	0.0004	L	0.0009	L
9	24.5	160	3	2	L	0.006	L	0.006		0.021	L	0.0002		0.0010	L	0.0004	L	0.0009	L
10	25.6	160	3	2	L	0.006	L	0.006		0.051	L	0.0002		0.0008	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004		0.0125		0.0016		0.0041	L	0.0008		0.0068	L	0.0008	L	0.001
2	0.0002	L	0.004		0.0075	L	0.0004		0.0032	L	0.0008		0.0043	L	0.0008	L	0.001
3	0.0002	L	0.004		0.0124		0.0020		0.0044	L	0.0008		0.0060	L	0.0008	L	0.001
4	0.0002	L	0.004		0.0102		0.0018		0.0033	L	0.0008		0.0051	L	0.0008	L	0.001
5	0.0002	L	0.004		0.0015	L	0.0004		0.0015	L	0.0008	L	0.0010	L	0.0008	L	0.001
6	0.0002	L	0.004		0.0059	L	0.0004		0.0028	L	0.0008		0.0031	L	0.0008	L	0.001
7	0.0002	L	0.004		0.0081	L	0.0004		0.0037	L	0.0008		0.0044	L	0.0008	L	0.001
8	0.0002	L	0.004		0.0067	L	0.0004		0.0032	L	0.0008		0.0035	L	0.0008	L	0.001
9	0.0002	L	0.004		0.0088	L	0.0004		0.0036	L	0.0008		0.0052	L	0.0008	L	0.001
10	0.0002	L	0.004		0.0080	L	0.0004		0.0034	L	0.0008		0.0046	L	0.0008	L	0.001

YEAR=1983 SITE=SELKIRK SPECIES=SAUGER

YEAR=83 SITE=BM006 SPECIES=18

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	32.5	380	3	2	L	0.006	L	0.006	.	0.038	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
2	35.2	480	.	3	L	0.006	L	0.006	.	0.053	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
3	28.0	240	4	2	L	0.006	L	0.006	.	0.035	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
4	31.9	360	4	3	L	0.006	L	0.006	.	0.044	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
5	27.0	220	.	3	L	0.006	L	0.006	.	0.015	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
6	33.2	420	4	3	L	0.006	L	0.006	.	0.040	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
7	33.9	420	4	3	L	0.006	L	0.006	.	0.021	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
8	32.4	360	4	3	L	0.006	L	0.006	.	0.016	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
9	28.9	360	4	2	L	0.006	L	0.006	.	0.031	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
10	32.0	360	4	3	L	0.006	L	0.006	.	0.024	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004	.	0.0122	.	0.0015	.	0.0070	L	0.0008	.	0.0036	L	0.0008	L	0.001
2	0.0002	L	0.004	.	0.0146	.	0.0019	.	0.0076	L	0.0008	.	0.0051	L	0.0008	L	0.001
3	0.0002	L	0.004	.	0.0049	L	0.0004	.	0.0016	L	0.0008	.	0.0033	L	0.0008	L	0.001
4	0.0002	L	0.004	.	0.0198	.	0.0024	.	0.0090	L	0.0008	.	0.0084	L	0.0008	L	0.001
5	0.0002	L	0.004	.	0.0062	.	0.0009	.	0.0035	L	0.0008	.	0.0018	L	0.0008	L	0.001
6	0.0002	L	0.004	.	0.0147	.	0.0021	.	0.0075	L	0.0008	.	0.0051	L	0.0008	L	0.001
7	0.0002	L	0.004	.	0.0083	.	0.0012	.	0.0043	L	0.0008	.	0.0028	L	0.0008	L	0.001
8	0.0002	L	0.004	.	0.0073	.	0.0010	.	0.0037	L	0.0008	.	0.0026	L	0.0008	L	0.001
9	0.0002	L	0.004	.	0.0138	.	0.0020	.	0.0083	L	0.0008	.	0.0035	L	0.0008	L	0.001
10	0.0002	L	0.004	.	0.0111	.	0.0016	.	0.0055	L	0.0008	.	0.0040	L	0.0008	L	0.001

APPENDIX 2 (c-2).

YEAR=1978 SITE=SELKIRK SPECIES=COMMON SUCKER

---------- YEAR=78 SITE=BM006 SPECIES=21 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	***** A-1248	***** A-1254	***** A-1260	***** ALDRIN	***** CHLORDANE	***** DIELDRIN	***** ENDRIN *****
1	43.0	1220	5	2	L 0.01	0.24	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
2	44.0	1360	6	2	L 0.01	0.06	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
3	44.5	1370	6	2	L 0.01	0.02	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
4	41.0	1160	5	2	L 0.01	0.03	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
5	39.8	1000	5	2	L 0.01	0.04	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
6	39.2	1010	5	2	L 0.01	0.03	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
7	37.2	740	5	2	L 0.01	0.06	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
8	39.5	980	5	2	L 0.01	0.13	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
9	40.1	1015	5	2	L 0.01	0.04	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
10	42.9	1250	5	2	L 0.01	0.05	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L

OBS	LINDANE *****	METHOXYCHLOR *****	TOTAL-DDT *****	OP-DDE *****	PP-DDE *****	OP-DDD *****	PP-DDD *****	OP-DDT *****	PP-DDT
1	0.001 L	0.005	0.045	0.005	0.010	L 0.002	0.030	L 0.002	L 0.002
2	0.001 L	0.005	0.011	0.002	0.004	L 0.002	0.005	L 0.002	L 0.002
3	0.001 L	0.005	0.005	0.002	0.001	L 0.002	0.002	L 0.002	L 0.002
4	0.001 L	0.005	0.015	0.004	0.004	L 0.002	0.007	L 0.002	L 0.002
5	0.001 L	0.005	0.023	0.004	0.005	L 0.002	0.008	L 0.002	0.006
6	0.001 L	0.005	0.013	0.004	0.003	L 0.002	0.006	L 0.002	L 0.002
7	0.001 L	0.005	0.023	0.004	0.007	L 0.002	0.012	L 0.002	L 0.002
8	0.001 L	0.005	0.030	0.006	0.010	L 0.002	0.014	L 0.002	L 0.002
9	0.001 L	0.005	0.016	0.002	0.005	L 0.002	0.009	L 0.002	L 0.002
10	0.001 L	0.005	0.014	0.004	0.004	L 0.002	0.006	L 0.002	L 0.002

YEAR=1979 SITE=SELKIRK SPECIES=COMMON SUCKER

---------- YEAR=79 SITE=BM006 SPECIES=21 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	***** A-1248	***** A-1254	***** A-1260	***** ALDRIN	***** CHLORDANE	***** DIELDRIN	***** ENDRIN *****
1	38.8	920	3	2	L 0.01	0.13	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
2	38.7	920	3	3	L 0.01	0.14	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
3	42.2	1050	3	3	L 0.01	0.07	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
4	39.5	930	5	3	L 0.01	0.07	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
5	39.7	1010	5	3	L 0.01	0.09	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
6	56.4	680	6	2	L 0.01	0.07	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
7	45.1	1560	5	3	L 0.01	0.06	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
8	57.8	1710	3	3	L 0.01	0.14	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
9	55.7	1510	3	3	L 0.01	0.06	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
10	44.7	1360	3	3	L 0.01	0.05	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L

OBS	LINDANE *****	METHOXYCHLOR *****	TOTAL-DDT *****	OP-DDE *****	PP-DDE *****	OP-DDD *****	PP-DDD *****	OP-DDT *****	PP-DDT
1	0.001 L	0.005	0.011	0.004	0.007	L 0.001	L 0.002	L 0.002	L 0.002
2	0.001 L	0.005	0.051	0.005	0.016	L 0.001	0.022	L 0.002	0.008
3	0.001 L	0.005	0.016	0.004	0.012	L 0.001	L 0.002	L 0.002	L 0.002
4	0.001 L	0.005	0.014	0.005	0.009	L 0.001	L 0.002	L 0.002	L 0.002
5	0.001 L	0.005	0.087	0.014	0.024	L 0.001	0.049	L 0.002	L 0.002
6	0.001 L	0.005	0.023	0.004	0.008	L 0.001	0.011	L 0.002	L 0.002
7	0.001 L	0.005 L	0.001 L	0.001 L	0.001 L	0.001 L	0.002	L 0.002	L 0.002
8	0.001 L	0.005 L	0.001 L	0.001 L	0.001 L	0.001 L	0.002	L 0.002	L 0.002
9	0.001 L	0.005 L	0.001 L	0.001 L	0.001 L	0.001 L	0.002	L 0.002	L 0.002
10	0.001 L	0.005 L	0.001 L	0.001 L	0.001 L	0.001 L	0.002	L 0.002	L 0.002

APPENDIX 2 (c-2) cont'd. YEAR=1980 SITE=SELKIRK SPECIES=COMMON SUCKER

---------- YEAR=80 SITE=BM006 SPECIES=21 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	41.3	980	3	3	L	0.01		0.04	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
2	41.9	1120	5	2	L	0.01		0.04	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
3	37.5	850	3	2	L	0.01	L	0.01	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
4	44.4	1370	6	3	L	0.01		0.03	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
5	40.9	1090	3	3	L	0.01	L	0.01	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
6	37.2	760	2	2	L	0.01		0.02	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
7	39.8	1110	5	2	L	0.01		0.05	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
8	38.8	910	4	2	L	0.01		0.03	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
9	45.8	1550	6	2	L	0.01		0.06	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
10	42.8	1200	5	3	L	0.01		0.05	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.001	L	0.005		0.025		0.006		0.008	L	0.002		0.011	L	0.002	L	0.002
2	0.001	L	0.005		0.023		0.005		0.007	L	0.002		0.011	L	0.002	L	0.002
3	0.001	L	0.005		0.010	L	0.001		0.004	L	0.002		0.006	L	0.002	L	0.002
4	0.001	L	0.005		0.010	L	0.001		0.005	L	0.002		0.005	L	0.002	L	0.002
5	0.001	L	0.005		0.006	L	0.001		0.002	L	0.002		0.004	L	0.002	L	0.002
6	0.001	L	0.005		0.005	L	0.001		0.002	L	0.002		0.003	L	0.002	L	0.002
7	0.001	L	0.005		0.020	L	0.001		0.008	L	0.002		0.012	L	0.002	L	0.002
8	0.001	L	0.005		0.012	L	0.001		0.005	L	0.002		0.007	L	0.002	L	0.002
9	0.001	L	0.005		0.017	L	0.001		0.008	L	0.002		0.009	L	0.002	L	0.002
10	0.001	L	0.005		0.016	L	0.001		0.008	L	0.002		0.008	L	0.002	L	0.002

YEAR=1981 SITE=SELKIRK SPECIES=COMMON SUCKER

---------- YEAR=81 SITE=BM006 SPECIES=21 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	39.5	1000	4	2	L	0.006	L	0.006		0.027	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
2	39.9	880	2	3	L	0.006	L	0.006		0.034	L	0.0002		0.0016	L	0.0004	L	0.0009	L
3	42.0	1200	3	3	L	0.006	L	0.006		0.084	L	0.0002		0.0032	L	0.0004	L	0.0009	L
4	40.6	1040	3	2	L	0.006	L	0.006		0.020	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
5	39.4	950	2	3	L	0.006	L	0.006		0.044	L	0.0002		0.0010	L	0.0004	L	0.0009	L
6	40.3	1130	3	2	L	0.006	L	0.006		0.072	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
7	40.4	1000	3	3	L	0.006	L	0.006		0.060	L	0.0002		0.0047	L	0.0004	L	0.0009	L
8	42.4	1230	3	3	L	0.006	L	0.006		0.019	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
9	45.7	1340	7	2	L	0.006	L	0.006		0.044	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
10	45.3	1510	8	2	L	0.006	L	0.006		0.036	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004		0.0142		0.0043		0.0046	L	0.0008		0.0043	L	0.0008	L	0.001
2	0.0002	L	0.004		0.0164		0.0051		0.0041	L	0.0008		0.0072	L	0.0008	L	0.001
3	0.0002	L	0.004		0.0460		0.0137		0.0114	L	0.0008		0.0209	L	0.0008	L	0.001
4	0.0002	L	0.004		0.0171		0.0060		0.0049	L	0.0008		0.0062	L	0.0008	L	0.001
5	0.0002	L	0.004		0.0221		0.0061		0.0061	L	0.0008		0.0099	L	0.0008	L	0.001
6	0.0002	L	0.004		0.0348		0.0101		0.0103	L	0.0008		0.0144	L	0.0008	L	0.001
7	0.0002	L	0.004		0.0305		0.0115		0.0093	L	0.0008		0.0097	L	0.0008	L	0.001
8	0.0002	L	0.004		0.0116		0.0033		0.0032	L	0.0008		0.0051	L	0.0008	L	0.001
9	0.0002	L	0.004		0.0233		0.0063		0.0092	L	0.0008		0.0078	L	0.0008	L	0.001
10	0.0002	L	0.004		0.0240		0.0062		0.0080	L	0.0008		0.0098	L	0.0008	L	0.001

APPENDIX 2 (c-2) cont'd. YEAR=1982 SITE=SELKIRK SPECIES=COMMON SUCKER

---------- YEAR=82 SITE=BM006 SPECIES=21 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	A-1248	A-1254	A-1260	ALDRIN	CHLORDANE	DIELDRIN	ENDRIN
1	33.5	750	2	3	L 0.006	L 0.006	0.052	L 0.0002	0.0033	L 0.0004	L 0.0009 L
2	37.0	800	3	3	L 0.006	L 0.006	0.063	L 0.0002	0.0019	L 0.0004	L 0.0009 L
3	39.3	1020	3	2	L 0.006	L 0.006	0.067	L 0.0002	0.0027	L 0.0004	L 0.0009 L
4	40.3	1140	3	2	L 0.006	L 0.006	0.057	L 0.0002	0.0025	L 0.0004	L 0.0009 L
5	47.4	1800	6	3	L 0.006	L 0.006	0.098	L 0.0002	0.0038	L 0.0004	L 0.0009 L
6	38.3	980	4	2	L 0.006	L 0.006	0.067	L 0.0002	0.0023	L 0.0004	L 0.0009 L
7	40.2	1040	4	2	L 0.006	L 0.006	0.044	L 0.0002	0.0027	L 0.0004	L 0.0009 L
8	39.0	1020	2	2	L 0.006	L 0.006	0.014	L 0.0002	0.0013	L 0.0004	L 0.0009 L
9	37.2	1000	3	2	L 0.006	L 0.006	0.045	L 0.0002	0.0033	L 0.0004	L 0.0009 L
10	37.8	940	3	3	L 0.006	L 0.006	0.010	L 0.0002	0.0007	L 0.0004	L 0.0009 L
11	.	.	.	.	.	.	.	.	.	.	. .

OBS	LINDANE	METHOXYCHLOR	TOTAL-DDT	OP-DDE	PP-DDE	OP-DDD	PP-DDD	OP-DDT	PP-DDT
1	0.0002 L	0.004	0.0230	L 0.0004	0.0074	L 0.0008	0.0156	L 0.0008	L 0.001
2	0.0002 L	0.004	0.0295	0.0027	0.0126	L 0.0008	0.0142	L 0.0008	L 0.001
3	0.0002 L	0.004	0.0269	0.0035	0.0094	L 0.0008	0.0140	L 0.0008	L 0.001
4	0.0002 L	0.004	0.0201	0.0027	0.0061	L 0.0008	0.0113	L 0.0008	L 0.001
5	0.0002 L	0.004	0.0523	0.0051	0.0174	L 0.0008	0.0298	L 0.0008	L 0.001
6	0.0002 L	0.004	0.0282	0.0042	0.0108	L 0.0008	0.0132	L 0.0008	L 0.001
7	0.0002 L	0.004	0.0433	0.0058	0.0143	L 0.0008	0.0232	L 0.0008	L 0.001
8	0.0002 L	0.004	0.0131	0.0022	0.0044	L 0.0008	0.0065	L 0.0008	L 0.001
9	0.0002 L	0.004	0.0326	0.0059	0.0085	L 0.0008	0.0132	L 0.0008	L 0.001
10	0.0002 L	0.004 L	0.0106	0.0011	0.0031	L 0.0008	0.0064	L 0.0008	L 0.001

YEAR=1983 SITE=SELKIRK SPECIES=COMMON SUCKER

---------- YEAR=83 SITE=BM006 SPECIES=21 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	A-1248	A-1254	A-1260	ALDRIN	CHLORDANE	DIELDRIN	ENDRIN
1	43.3	1400	5	3	L 0.006	L 0.006	. 0.054	L 0.0002	L 0.0003	L 0.0004	L 0.0009 L
2	44.0	1400	5	3	L 0.006	L 0.006	. 0.018	L 0.0002	L 0.0003	L 0.0004	L 0.0009 L
3	42.0	1320	5	3	L 0.006	L 0.006	. 0.031	L 0.0002	L 0.0003	L 0.0004	L 0.0009 L
4	45.3	1480	4	3	L 0.006	L 0.006	. 0.045	L 0.0002	L 0.0003	L 0.0004	L 0.0009 L
5	40.6	1220	5	2	L 0.006	L 0.006	. 0.040	L 0.0002	L 0.0003	L 0.0004	L 0.0009 L
6	44.9	1460	5	3	L 0.006	L 0.006	. 0.042	L 0.0002	L 0.0003	L 0.0004	L 0.0009 L
7	42.5	1250	4	2	L 0.006	L 0.006	. 0.070	L 0.0002	L 0.0003	L 0.0004	L 0.0009 L
8	39.6	1020	4	2	L 0.006	L 0.006	. 0.065	L 0.0002	L 0.0003	L 0.0004	L 0.0009 L
9	42.6	1250	4	3	L 0.006	L 0.006	. 0.049	L 0.0002	L 0.0003	L 0.0004	L 0.0009 L
10	44.3	1620	4	3	L 0.006	L 0.006	. 0.046	L 0.0002	L 0.0003	L 0.0004	L 0.0009 L

OBS	LINDANE	METHOXYCHLOR	TOTAL-DDT	OP-DDE	PP-DDE	OP-DDD	PP-DDD	OP-DDT	PP-DDT
1	0.0002 L	0.004	. 0.0218	. 0.0025	. 0.0149	L 0.0008	. 0.0044	L 0.0008	L 0.001
2	0.0002 L	0.004	. 0.0107	. 0.0012	. 0.0053	L 0.0008	. 0.0042	L 0.0008	L 0.001
3	0.0002 L	0.004	. 0.0156	. 0.0026	. 0.0093	L 0.0008	. 0.0032	L 0.0008	L 0.001
4	0.0002 L	0.004	. 0.0351	. 0.0049	. 0.0177	L 0.0008	. 0.0125	L 0.0008	L 0.001
5	0.0002 L	0.004	. 0.0204	. 0.0030	. 0.0094	L 0.0008	. 0.0080	L 0.0008	L 0.001
6	0.0002 L	0.004	. 0.0234	. 0.0041	. 0.0113	L 0.0008	. 0.0080	L 0.0008	L 0.001
7	0.0002 L	0.004	. 0.0386	. 0.0058	. 0.0181	L 0.0008	. 0.0147	L 0.0008	L 0.001
8	0.0002 L	0.004	. 0.0246	. 0.0070	. 0.0060	L 0.0008	. 0.0116	L 0.0008	L 0.001
9	0.0002 L	0.004	. 0.0252	. 0.0040	. 0.0131	L 0.0008	. 0.0031	L 0.0008	L 0.001
10	0.0002 L	0.004	. 0.0300	. 0.0050	. 0.0140	L 0.0008	. 0.0110	L 0.0008	L 0.001

APPENDIX 2 (c-3). YEAR=1978 SITE=SELKIRK SPECIES=FRESHWATER DRUM

---------- YEAR=78 SITE=BM006 SPECIES=28 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	***** A-1248	***** A-1254	***** A-1260	***** ALDRIN	***** CHLORDANE	***** DIELDRIN	***** ENDRIN
1	30.6	325	7	3	L 0.01	0.09	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
2	30.0	300	6	3	L 0.01	0.24	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
3	32.8	500	8	2	L 0.01	0.09	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
4	29.5	380	7	3	L 0.01	0.06	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
5	30.0	340	6	1	L 0.01	0.12	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
6	31.4	380	6	2	L 0.01	0.12	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
7	32.9	440	7	3	L 0.01	0.12	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
8	24.7	200	5	2	L 0.01	0.07	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
9	30.6	390	7	2	L 0.01	0.07	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
10	34.3	560	9	2	L 0.01	0.08	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.001	L	0.005		0.009		0.002		0.003	L	0.002		0.004	L	0.002	L	0.002
2	0.001	L	0.005		0.170	L	0.001		0.008	L	0.002		0.012	L	0.002		0.150
3	0.001	L	0.005		0.036		0.002		0.009	L	0.002		0.015	L	0.002		0.010
4	0.001	L	0.005		0.010		0.002		0.002	L	0.002		0.006	L	0.002	L	0.002
5	0.001	L	0.005		0.019		0.002		0.010	L	0.002		0.007	L	0.002	L	0.002
6	0.001	L	0.005		0.022		0.003		0.006	L	0.002		0.010	L	0.002		0.003
7	0.001	L	0.005		0.017		0.003		0.004	L	0.002		0.006	L	0.002		0.004
8	0.001	L	0.005		0.011	L	0.001		0.004	L	0.002		0.004	L	0.002		0.003
9	0.001	L	0.005		0.007	L	0.001		0.005	L	0.002		0.002	L	0.002	L	0.002
10	0.001	L	0.005		0.014	L	0.001		0.006	L	0.002		0.008	L	0.002	L	0.002

YEAR=1979 SITE=SELKIRK SPECIES=FRESHWATER DRUM

---------- YEAR=79 SITE=BM006 SPECIES=28 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	***** A-1248	***** A-1254	***** A-1260	***** ALDRIN	***** CHLORDANE	***** DIELDRIN	***** ENDRIN
1	46.0	1210	7	2	L 0.01	0.12	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
2	39.5	920	8	2	L 0.01	0.07	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
3	27.8	330	6	1	L 0.01	0.04	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
4	37.0	700	8	2	L 0.01	0.09	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
5	33.7	530	9	2	L 0.01	0.11	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
6	36.1	630	10	2	L 0.01	0.06	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
7	33.7	480	8	2	L 0.01	0.05	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
8	26.3	190	7	3	L 0.01	0.04	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
9	30.5	390	7	2	L 0.01	0.06	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L
10	40.0	980	10	2	L 0.01	0.07	L 0.01	L 0.002	L 0.005	L 0.001	L 0.005 L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.001	L	0.005		0.011	L	0.001		0.003	L	0.001		0.008	L	0.002	L	0.002
2	0.001	L	0.005		0.015	L	0.001		0.015	L	0.001	L	0.002	L	0.002	L	0.002
3	0.001	L	0.005	L	0.001	L	0.001	L	0.001	L	0.001	L	0.002	L	0.002	L	0.002
4	0.001	L	0.005		0.040	L	0.001		0.026	L	0.001		0.014	L	0.002	L	0.002
5	0.001	L	0.005		0.023	L	0.001		0.012	L	0.001		0.011	L	0.002	L	0.002
6	0.001	L	0.005		0.010	L	0.001		0.006	L	0.001		0.004	L	0.002	L	0.002
7	0.001	L	0.005		0.010	L	0.001		0.006	L	0.001		0.005	L	0.002	L	0.002
8	0.001	L	0.005		0.003	L	0.001		0.003	L	0.001	L	0.002	L	0.002	L	0.002
9	0.001	L	0.005		0.027		0.002		0.009	L	0.001		0.016	L	0.002	L	0.002
10	0.001	L	0.005		0.025	L	0.001		0.016	L	0.001		0.009	L	0.002	L	0.002

APPENDIX 2 (c-3) cont'd.

YEAR=1980 SITE=SELKIRK SPECIES=FRESHWATER DRUM

YEAR=80 SITE=BM006 SPECIES=28

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	36.9	720	6	2	L	0.01		0.10	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
2	38.1	780	8	2	L	0.01		0.08	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
3	36.5	680	8	2	L	0.01		0.04	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
4	32.1	400	6	2	L	0.01	L	0.01	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
5	35.0	590	6	3	L	0.01		0.08	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
6	34.8	610	5	2	L	0.01	L	0.01	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
7	37.8	820	8	2	L	0.01	L	0.01	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
8	36.7	630	7	2	L	0.01		0.12	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
9	35.7	650	7	3	L	0.01		0.07	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L
10	33.4	580	8	2	L	0.01		0.08	L	0.01	L	0.002	L	0.005	L	0.001	L	0.005	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.001	L	0.005		0.034		0.013		0.009	L	0.002		0.012	L	0.002	L	0.002
2	0.001	L	0.005		0.026		0.011		0.009	L	0.002		0.006	L	0.002	L	0.002
3	0.001	L	0.005		0.019		0.012		0.003	L	0.002		0.004	L	0.002	L	0.002
4	0.001	L	0.005		0.013		0.007		0.002	L	0.002		0.004	L	0.002	L	0.002
5	0.001	L	0.005		0.042		0.012		0.010	L	0.002		0.020	L	0.002	L	0.002
6	0.001	L	0.005		0.021		0.012		0.005	L	0.002		0.004	L	0.002	L	0.002
7	0.001	L	0.005		0.031		0.009		0.004	L	0.002	L	0.002	L	0.002	L	0.002
8	0.001	L	0.005		0.043		0.013		0.013	L	0.002		0.017	L	0.002	L	0.002
9	0.001	L	0.005		0.035		0.009		0.009	L	0.002		0.017	L	0.002	L	0.002
10	0.001	L	0.005		0.038		0.012		0.009	L	0.002		0.017	L	0.002	L	0.002

YEAR=1981 SITE=SELKIRK SPECIES=FRESHWATER DRUM

YEAR=81 SITE=BM006 SPECIES=28

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	37.2	760	11	3	L	0.006	L	0.006		0.035	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
2	41.0	990	10	2	L	0.006	L	0.006		0.017	L	0.0002		0.0012	L	0.0004	L	0.0009	L
3	34.8	480	11	3	L	0.006	L	0.006		0.012	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
4	38.5	770	12	2	L	0.006	L	0.006		0.044	L	0.0002		0.0024	L	0.0004	L	0.0009	L
5	31.2	400	5	2	L	0.006	L	0.006		0.033	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
6	32.7	460	13	2	L	0.006	L	0.006		0.025	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
7	41.0	940	12	2	L	0.006	L	0.006		0.039	L	0.0002		0.0024	L	0.0004	L	0.0009	L
8	36.7	680	11	3	L	0.006		0.039	L	0.006	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
9	38.5	770	12	2	L	0.006		0.020	L	0.006	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L
10	39.2	870	12	2	L	0.006		0.017	L	0.006	L	0.0002	L	0.0004	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004		0.0201		0.0109		0.0057	L	0.0008		0.0035	L	0.0008	L	0.0010
2	0.0002	L	0.004		0.0357		0.0131		0.0144	L	0.0008		0.0082	L	0.0008	L	0.0010
3	0.0002	L	0.004		0.0105		0.0051		0.0029	L	0.0008		0.0025	L	0.0008	L	0.0010
4	0.0002	L	0.004		0.0362		0.0162		0.0116	L	0.0008		0.0084	L	0.0008	L	0.0010
5	0.0002	L	0.004		0.0256		0.0095		0.0072	L	0.0008		0.0089	L	0.0008	L	0.0010
6	0.0002	L	0.004		0.0294		0.0109		0.0064	L	0.0008		0.0046	L	0.0008		0.0075
7	0.0002	L	0.004		0.0340		0.0128		0.0122	L	0.0008		0.0090	L	0.0008	L	0.0010
8	0.0002	L	0.004		0.0132		0.0016		0.0051	L	0.0008		0.0065	L	0.0008	L	0.0010
9	0.0002	L	0.004		0.0103		0.0013		0.0047	L	0.0008		0.0035	L	0.0008	L	0.0010
10	0.0002	L	0.004		0.0152		0.0034		0.0079	L	0.0008		0.0032	L	0.0008	L	0.0010

APPENDIX 2 (c-3) cont'd.

YEAR=1982 SITE=SELKIRK SPECIES=FRESHWATER DRUM

---------- YEAR=82 SITE=BM006 SPECIES=28 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	39.3	860	13	2	L	0.006	L	0.006		0.026	L	0.0002		0.0039	L	0.0004	L	0.0009	L
2	39.9	1180	12	3	L	0.006	L	0.006		0.018	L	0.0002		0.0039	L	0.0004	L	0.0009	L
3	37.5	770	11	2	L	0.006	L	0.006		0.082	L	0.0002		0.0053	L	0.0004	L	0.0009	L
4	36.9	660	13	2	L	0.006	L	0.006		0.023	L	0.0002		0.0033	L	0.0004	L	0.0009	L
5	36.7	780	14	3	L	0.006	L	0.006		0.047	L	0.0002		0.0034	L	0.0004	L	0.0009	L
6	34.8	660	12	3	L	0.006	L	0.006		0.082	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
7	37.8	780	12	2	L	0.006	L	0.006		0.047	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
8	33.2	510	5	3	L	0.006	L	0.006		0.018	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
9	36.2	780	12	2	L	0.006	L	0.006		0.057	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004		0.0193		0.0021		0.0085	L	0.0008		0.0067	L	0.0008	L	0.001
2	0.0002	L	0.004		0.0177		0.0021		0.0097	L	0.0008		0.0059	L	0.0008	L	0.001
3	0.0002	L	0.004		0.0492		0.0083		0.0244	L	0.0008		0.0165	L	0.0008	L	0.001
4	0.0002	L	0.004		0.0205		0.0036		0.0111	L	0.0008		0.0058	L	0.0008	L	0.001
5	0.0002	L	0.004		0.0269		0.0045		0.0090	L	0.0008		0.0134	L	0.0008	L	0.001
6	0.0002	L	0.004		0.1649		0.0132		0.0595	L	0.0008		0.0922	L	0.0008	L	0.001
7	0.0002	L	0.004		0.0813		0.0087		0.0302	L	0.0008		0.0424	L	0.0008	L	0.001
8	0.0002	L	0.004		0.0240		0.0016		0.0082	L	0.0008		0.0142	L	0.0008	L	0.001
9	0.0002	L	0.004		0.0636		0.0158		0.0213	L	0.0008		0.0265	L	0.0008	L	0.001

YEAR=1983 SITE=SELKIRK SPECIES=FRESHWATER DRUM

---------- YEAR=83 SITE=BM006 SPECIES=28 ----------

OBS	LENGTH	WEIGHT	AGE	SEX	*****	A-1248	*****	A-1254	*****	A-1260	*****	ALDRIN	*****	CHLORDANE	*****	DIELDRIN	*****	ENDRIN	*****
1	37.2	780	.	3	L	0.006	L	0.006	.	0.051	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
2	39.9	1060	15	2	L	0.006	L	0.006	.	0.040	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
3	34.0	540	8	2	L	0.006	L	0.006	.	0.041	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
4	35.0	760	.	2	L	0.006	L	0.006	.	0.045	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
5	38.1	690	20	2	L	0.006	L	0.006	.	0.068	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
6	36.4	760	14	2	L	0.006	L	0.006	.	0.033	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L
7	14.2	40	4	1	L	0.006	L	0.006	L	0.006	L	0.0002	L	0.0003	L	0.0004	L	0.0009	L

OBS	LINDANE	*****	METHOXYCHLOR	*****	TOTAL-DDT	*****	OP-DDE	*****	PP-DDE	*****	OP-DDD	*****	PP-DDD	*****	OP-DDT	*****	PP-DDT
1	0.0002	L	0.004	.	0.0158	.	0.0031	.	0.0068	L	0.0008	.	0.0039	L	0.0008	L	0.001
2	0.0002	L	0.004	.	0.0164	.	0.0038	.	0.0089	L	0.0008	.	0.0037	L	0.0008	L	0.001
3	0.0002	L	0.004	.	0.0151	.	0.0029	.	0.0055	L	0.0008	.	0.0067	L	0.0008	L	0.001
4	0.0002	L	0.004	.	0.0141	.	0.0031	.	0.0061	L	0.0008	.	0.0049	L	0.0008	L	0.001
5	0.0002	L	0.004	.	0.0177	.	0.0052	.	0.0060	L	0.0008	.	0.0065	L	0.0008	L	0.001
6	0.0002	L	0.004	.	0.0201	.	0.0049	.	0.0083	L	0.0008	.	0.0064	L	0.0008	L	0.001
7	0.0002	L	0.004	.	0.0041	L	0.0004	.	0.0041	L	0.0008	L	0.0010	L	0.0008	L	0.001

APPENDIX III

		PAGE
3.	Synopsis of organochlorine analytes:*	
3 (a).	PCB.....	79
3 (b).	Aldrin.....	80
3 (c).	Chlordane.....	81
3 (d).	Dieldrin.....	82
3 (e).	Endrin.....	83
3 (f).	Lindane.....	84
3 (g).	Methoxychlor.....	85
3 (h).	Total - DDT.....	86
3 (i).	DDE.....	87
3 (j).	DDD.....	88
3 (k).	DDT.....	89

---

* Compiled from Johnson and Finley (1980), Smith et al (1984), E. Yee (pers. comm), P. Nicholas (pers. comm.) and G. MacGregor (pers. comm.)

E. Yee, Hazardous and Sepcial Wastes Coordinator, Manitoba Environment and Workplace Safety and Health.

P. Nicholas, Chemist, Organic Analysis, W. M. Ward Technical Services Laboratory.

G. MacGregor, Industry Services Branch, Canada Fisheries and Oceans.

PCB

Chemical names: Polychlorinated biphenyls as
Aroclor 1248
Aroclor 1254
Aroclor 1260
(The latter two digits of each Aroclor number indicate percent chlorine content per formulation).

Alternate names: Aroclor, PCB

Principal use: These industrial chemicals have been widely used as plasticizers and in dielectric fluids.

Comment: Monsanto, the sole North American manufacturer, ceased production in October, 1977. Within Canada, the Environmental Contaminants Act restricts the use of PCB containing equipment in food preparation areas. Manitoba Hydro and Winnipeg Hydro, the primary users of equipment containing PCB within Manitoba, have voluntarily adopted a policy of phasing out such equipment.

Detection Limit: During the period 1978 to 1980 (inclusive) - 0.01 µg/g.
During the period 1981 to present - 0.006 µg/g.

Canada Limit for Fish: 2.0 µg/g.

ALDRIN

Chemical name: 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-1,4-endo-exo-5,8-dimethanonaphthalene.

Alternate names: Aldrine, Aldrite, Aldrosol, CAS-309-00-2, Compound 118, ENT-15949, HHDN, Octalene, Seedrin.

Principal use: Insecticide

Comment: Aldrin has been deregistered for sale in Canada under the Pest Control Products Act.

Detection limit: During the period 1978 to 1980 (inclusive) - 0.002 µg/g.
During the period 1981 to present - 0.0002 µg/g.

Canada Limit for Fish: 0.3 µg/g.

CHLORDANE*

Chemical name: 1,2,4,5,6,7,8,8-Octachloro-2,3,3a,4,7,7a-hexahydro-4,7-methanoindene.

Alternate names: Aspon, Belt, CAS57-75-9, Chlor=dan, Chlor-Kill, Corodane, ENT-9932, Krypclor, Octachlor, Ortho Klor, Synklor, Topiclor 20, Velsicol 1068.

Principal Use: Insecticide

Comment: The Manitoba Department of Agriculture recommends chlordane for the control of strawberry root weevil, various turf insects, ants and crickets.

Detection Limit: During the period 1978 to 1980 (inclusive) - 0.005 µg/g/
During 1981 - 0.0004 µg/g
During the period 1982 to present - 0.0003 µg/g

Canada Limit for Fish: no limit set at present

---

* Chlordane residues reported in the present study are summations of the CIS and Trans isomers.

DIELDRIN

Chemical name: 1,2,3,4,10,10-Hexachloro-exo-6,7-epoxy-1,4,4a,5,6,7,8, 8a-octahydro-1,4-endo-exo-5,8-dimethanonaphthalene.

Alternate names: Aluit, CAS60-57-1, Compound 47, Dieldrine, Dieldrite, ENT-16225, HEOD, Octalox, Panoram D-31.

Principal Use: Insecticide

Comment: Dieldrin has been deregistered for sale in Canada under the Pest Control Products Act.

Detection Limit: During the period 1978 to 1980 (inclusive) - 0.001 µg/g
During the period 1981 to present - 0.0004 µg/g

Canada Limit for Fish: 0.3 µg/g

ENDRIN

Chemical name: 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8, 8a-octahydro-1,4-endo,endo-5,8-dimethanonaphthalene.

Alternate names: CAS-72-20-8, Compound 269, ENT-17251, Hexadrin, Mendrin.

Principal use: Insecticide

Comment: Endrin has been deregistered for sale in Canada under the Pest Control Products Act.

Detection Limit: During the period 1978 to 1980 (inclusive) - 0.005 µg/g
During the period 1981 to present - 0.0009 µg/g.

Canada Limit for Fish: No limit set at present.

LINDANE

Chemical name: Gamma isomer of 1,2,3,4,5,6-hexachlorocyclohexane

Alternate names: Benesan, CAS58-89-9, ENT-7796, Forlin, Gamaphex, Gamma BHC, Gammafog, Gammalin, Gammex, Gammexane, Isotex, Lindafor, Lindagam, Lindamul, Lintox, Novigam, Oko, Silvanol.

Principal use: Insecticide

Comment: The Manitoba Department of Agriculture recommends the use of lindane for a wide range of applications. Recommendations include application for control of a variety of livestock pests such as dog ticks, hog mange mites, lice on cattle, horses, sheep and goats and for control of crop pests such as wireworms, flea beetles and thrips.

Detection limit: During the period 1978 to 1980 (inclusive) - 0.001 µg/g
During the period 1981 to present - 0.0002 µg/g

Canada Limit for Fish: No limit set at present.

METHOXYCHLOR

Chemical name: 2,2-Bis(p-methoxyphenyl)-1,1,1-trichloroethane

Alternate names: CAS72-43-5, Dimethoxy-DT, DMDT, ENT-1716, Marlate, Methoxo, Methoxy-DDT

Principal use: Insecticide

Comment: The Manitoba Department of Agriculture recommends the use of methoxychlor for control of cattle horn flies and a variety of fruit and tree pests such as the tent caterpillar, apple seed chalcid, plum curculio, currant fruit fly, cankerworm and elm bark beetle.

Detection limit: During the period 1978 to 1980 (inclusive) - 0.005 µg/g
During the period 1981 to present - 0.004 µg/g

Canada Limit for Fish: No limit set at present.

TOTAL DDT

Chemical names: refer to DDE, DDD and DDT

Alternate names: refer to DDE, DDD and DDT

Principal use: Insecticide

Comment: Within the context of the present report the term "total DDT" refers to the sum of the ortho, para and para, para isomers of DDE, DDD and DDT.

Detection limit: During the period of 1978 to 1980 (inclusive) - 0.001 µg/g
During the period 1981 to present - 0.0003 µg/g

Canada Limit for Fish: 5.0 µg/g

DDE

Chemical name: Dichloro diphenyl dichloroethylene

Alternate names: none known

Principal uses: Insecticide, degradation product of DDT

Comment: This product occurs as both ortho, para and para, para isomers and is one of the primary metabolites of DDT. It has been deregistered for sale in Canada under the Pest Control Products Act.

Detection limit: During the period 1978 to 1980 (inclusive) - 0.001 µg/g
During the period 1981 to present - 0.0004 µg/g

Canada Limit for Fish: Included in the category of Total DDT, the sum of which is not to exceed 5.0 µg/g.

DDD

Chemical name:	dichloro diphenyl dichloroethane
Alternate name:	CAS72-54-8, ENT-4225, Rothane, TDE
Principal use:	Insecticide
Comment:	This product occurs as both ortho, para and para, para isomers and has been deregistered for sale in Canada under the Pest Control Products Act.
Detection limit	During the period 1978 to 1980 (inclusive) - 0.002 µg/g During the period 1981 to present: o,p-DDE - 0.0008 µg/g :p,p-DDE - 0.001 µg/g
Canada Limit for Fish:	Included in the category of "Total DDT", the sum of which is not to exceed 5.0 µg/g

DDT

Chemical name: dichloro diphenyl trichloroethane

Alternate names: Anofax, CAS50-29-3, Chlorophenothane, Dedelo, Didimac, ENT-1506, Geritox, Gesapon, Gesasex, Gesarol, Gyron, Ixodex, Kopool, Neocid, Pentachlorin, Ruksean, Zerdane.

Principal use: Insecticide

Comment: This product occurs as both the orth, para and para, para isomers and has been deregistered for sale in Canada under the Pest Control Products Act.

Detection limit: During the period 1978 to 1980 (inclusive) - 0.002 µg/g
During the period 1981 to present: o,p-DDE - 0.0008 µg/g
:p,p-DDE - 0.001 µg/g

Canada Limit for Fish: Included in the category of "Total DDT", the sum of which is not to exceed 5.0 µg/g